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Commonwealth of Kentucky
Martha Layne Collins, Governor

Prepared by the
Center for Business and Economic Research
College of Business & Economics
University of Kentucky
for the
Governor's Financial Policy Council

ANNUAL ECONOMIC REPORT—1985
COMMONWEALTH OF KENTUCKY

AN ECONOMIC AND GOVERNMENTAL FINANCE PROFILE OF KENTUCKY

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AN ECONOMIC AND GOVERNMENTAL FINANCE PROFILE OF KENTUCKY

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FOREWORD

State and regional economies and financial characteristics change in response to both external and internal factors. Such change can take the form of structural employment and income shifts between and among major economic sectors, differential growth rates among regions and sectors, legislative changes, and changes in economic well-being typically expressed in terms of personal income. The purpose of this report on the Kentucky economy is to highlight the socio-economic and financial changes which have occurred over the past few decades in Kentucky. This perspective on long-term changes should assist policymakers, business analysts, corporate planners and citizens to understand more about the economic changes Kentucky has experienced over time and to gain a perspective on the current status of our economy. With such understanding, decision makers will be, hopefully, better prepared to analyze the ways and means of augmenting desirable change and mitigating against undesirable economic and social trends in the future.

To put Kentucky's economic changes and financial characteristics in perspective, Professor Don Soule has analyzed adjustments in Kentucky's population, labor force, earnings per worker, durable and nondurable manufacturing, revenues and expenditures, and the like in relation to changes in comparable variables for the nation. Some comparisons are also made with Tennessee and Georgia. From this analysis, readers can gain a better understanding of whether the Kentucky economy has tended to follow the waves of national and regional economic fluctuations or whether changes in the Kentucky economy are in a direction separate and distinct from national or regional economic adjustments.

The composite set of analyses of this report should, then, be considered a factual and retrospective review of adjustments in the socio-economic environment of Kentucky. The report should, consequently, provide insights into where the economy has been, an understanding of where it currently is, and a basis for analyzing where it may be headed in the future.

By publishing this report, the College of Business and Economics, through its Center for Business and Economic Research, attests that it is a competent treatment of a significant subject which represents another major effort in meeting the College's service and research responsibility to the Commonwealth of Kentucky. The opinions expressed are, of course, those of the authors and do not, necessarily, represent any positions or opinions of the College of Business and Economics or the University of Kentucky.

H. Brinton Milward
Director, Center for Business and
Economic Research

EDITOR'S PREFACE

Preparation of the *Commonwealth of Kentucky Annual Economic Report—1985* has been undertaken as an activity of the Statistical Information Services and Publications Programs of the Center for Business and Economic Research, College of Business and Economics, University of Kentucky. Publication of this report is one way in which the Center fulfills its mandate to maintain Kentucky economic and financial policy data, to analyze these data, and to prepare an annual economic report.

The *Annual Economic Report—1985* examines economic and financial characteristics and changes in Kentucky, the U.S., and selectively in Tennessee and Georgia, 1970-1984. All data used in this report are the most current annual estimates available from the respective primary source agencies; the secondary source for most of the data is the Kentucky Economic Information System (KEIS). Economic data are generally subject to revision; therefore, many of the values reported in this publication differ from values shown in previous reports. A glossary at the end of each of the two parts of this report defines selected terms and includes methodological descriptions.

The appearance of this publication is the product of the combined efforts of many people. Primary credits go to Professor Don M. Soule, who outlined the plan of work and then wrote the analysis. Carolyn S. Looff prepared the data for the analysis and was assisted by J. Beth Smith for the data reported in Section 8. Roy A. Sigafus produced the figures; special thanks are extended to the Small Business Development Center, College of Business and Economics, for use of their computer graphics equipment. Patricia Y. Smith was Production Manager, assisted by Leannda Vaughn. Nancy Drury, staff assistant for the Center for Business and Economic Research, provided efficient support in a variety of ways. The Information Services Center, College of Business and Economics, directed by Janet S. Cabaniss, handled the physical preparation of the publication, including typesetting by James C. Wright, and layout and paste-up by Debra Anderson and Edna Carlos. Printing was by the University of Kentucky Printing Department.

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Business and Economic Research

AN ECONOMIC AND GOVERNMENTAL FINANCE PROFILE OF KENTUCKY

by Don M. Soule*

This report examines economic characteristics and annual changes in the Kentucky economy, generally over the 15-year period 1970-1984. The fifteen sections are arranged in two parts. Part I of the report deals with such economic characteristics as: population size and migration; employment, unemployment, and labor force participation; average pay by industry groups; growth and sources of personal income; number of employed workers in eight major industry groups and also in subgroups in manufacturing; and income, employment, and production related to coal, agriculture, and construction. Part II of the report deals with state plus local government finances in the four specific areas of revenue, expenditures, federal aid, and debt financing.

The Kentucky economy is compared with the national economy in all of the sections, and additional comparisons are made with Tennessee and Georgia in many of the sections. Selection of Tennessee as a comparison state was based almost exclusively on its close geographic proximity to Kentucky, while selection of Georgia was based on its above-average economic performance among the Southeastern states as well as its geographic location relative to Kentucky.

Most of the comparisons presented in this report are based on data which have been statistically adjusted in a manner to identify and highlight the similarities and differences of Kentucky economic characteristics relative to those for the national economy and the changes in these characteristics over the years. Kentucky's population is only about 1.5 percent of the nation's, and its total personal income is only about 1.3 percent of the nation's. These differences in absolute size often mask differences and changes when unadjusted data are examined. But if both Kentucky and national economic data, such as personal income, are converted to per capita amounts (that is, amounts per person on the average) or are converted to percentages of their values in a common base year (such as percentages of their 1970 values), the large differences in absolute size are eliminated, allowing easy and meaningful comparison of characteristics and changes in the Kentucky and national economies. In other cases, the large differences in absolute size are

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removed by the technique of expressing parts of a total as percentages of that total, whereby both the Kentucky and national totals are made equal to 100 percent. Little of the original or unadjusted data is presented in this report. Inclusion of such not only would greatly increase the size of the report but also would leave readers with the task of identifying the significant differences and changes. However, all of these data are publicly accessible, generally through the Kentucky Economic Information System.

Meaningful analysis of the Kentucky economy, in most cases, cannot be made if only Kentucky data are examined because Kentucky is part of the much larger national economy which also is changing. Indeed, viewing only the Kentucky data can be misleading. Economic values, stated in original or unadjusted form, typically have increased over the years because of such influences as increased population size, greater output per worker, larger percentages of females who are working outside the home, and generalized increases in prices (inflation). When Kentucky data are examined for a period of years, these typical annual increases give the impression of improvement. But what is not shown in Kentucky data alone are the degrees to which these economic changes are also occurring in other states. What often is the most meaningful aspect of economic growth in a particular state is whether that growth is above or below the average of changes in the entire nation or in selected other states.

This year's *Annual Economic Report* differs from previous years' reports in three important ways. First, the analysis of economic activity is based primarily upon employment data. Previously, all industry-level analyses were based upon income data. Use of the employment data instead of the income data allows analysis of economic differences and changes in terms that have social and political significance not adequately shown by income data. For example, adding one $20,000 worker but subtracting two $10,000 workers has no effect on total earned income for the group, but nevertheless is an increase in number of persons unemployed.

The second way in which this year's report differs from those of previous years is that the coverage of state plus local governmental finances is greatly expanded by including new sections on expenditures, federal aid, and debt financing as well as by expanding the section on revenue. The third innovation is that coverage of the local economies is represented by a section on data relevant to educational finance. A variety of primary data sources was utilized in the preparation of this report and they are identified when appropriate. The secondary source for most of the data is the Kentucky Economic Information System (KEIS).

PART I

GENERAL ECONOMIC COMPARISONS

Introduction

Eleven of the fifteen sections of this report, included in Part I, concern general economic data on population, income, and employment. Most of the comparisons are between Kentucky and the nation, but some additional comparisons are between Kentucky, Tennessee, Georgia, and occasionally, the average of the twelve Southeastern states. Employment and income comparisons are made for the total economy, and employment comparisons are made for the major industry groups and the subgroups in manufacturing. Individual sections are included for the coal, agricultural, and construction industries.

The statistical information used in the income analysis is according to definitions established by the major reporting agency, the Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce. Readers are cautioned that the meaning of terms according to these specialized definitions may differ from the same or similar terms in common usage. A Glossary is presented at the end of Part I to inform readers of the exact meaning of specific BEA terms, as well as of terms used by the other data source agencies referenced in Part I.

1. Population Characteristics and Changes

Population data are presented in Table 1-A for Kentucky, Tennessee, Georgia, the Southeastern states, and the nation, by decades from 1920 to 1980 and by years from 1980 to 1984. Kentucky's population grew by 1,306,000 persons between 1920 and 1984, which represented an increase of 54 percent over the period. On an annual basis, the increase was about 20,400 persons per year which represented over eight-tenths of one percent per year. During the 1980s, Kentucky's population is estimated to be increasing by about four-tenths of one percent a year, which represents approximately 15,000 additional people per year on the average. In terms of number of persons, therefore, Kentucky's population has continued to grow. But what is not revealed by an examination of only the Kentucky population data is that Kentucky is a declining percentage of the total U.S. population. Also, Kentucky's population has declined relative to population in the Southeastern states as a group. Overall population growth for the nation and for the Southeast has exceeded the rate of population growth in Kentucky, causing Kentucky to become smaller in population when measured relative to these groups.

Kentucky's population, therefore, has shown absolute growth but relative decline generally over the period 1920 to 1984, shown in Table 1-A. The relative decline is most clearly shown in the last four columns of the table. Kentucky's population declined from 2.287 percent of the nation's population in 1920 to only 1.576 percent in 1984. During the same period, the Southeastern states as a group increased from 23.02 percent of the nation's population in 1920 to 23.59 percent in 1984. For the individual states shown, Tennessee and Georgia resembled Kentucky in showing relative decline over the period 1920 to 1984. Georgia, however, had relative population increase from 1960 to 1984, while Tennessee remained relatively stable during this period. Kentucky's contribution to total national population declined. That is, Georgia's population increased between 1960 and 1984 by 47.5 percent, which exceeded the national increase of 31.2 percent and the Southeastern increase of 43.2 percent, in the same period. During the period 1960 to 1984, Kentucky's population increased by only 22.4 percent. Tennessee's increase was 31.9 percent—above the national, but not the Southeastern increase.

Relative population changes over the years, as they differ among states, are a reflection of differences and changes in overall economic conditions. A state's absolute population can increase because of two separate forces: if births exceed deaths (natural change), or if in-migration of people exceeds out-migration of people. While the number of deaths and births can be affected by a state's level of economic well-being, the aspect of population change that is most indicative of economic well-being is the relationship between in- and out-migration, which is referred to as net migration. When

TABLE 1-A

Population Size, Kentucky, Tennessee, Georgia, the Southeast Region and the United States, 1920-1984

	Total Population					State Population as % of United States			
Year	United States	Kentucky	Tennessee	Georgia	Southeast	Kentucky	Tennessee	Georgia	Southeast
			(Millions)				(Percent)		
1920	105.7	2.417	2.338	2.896	24.33	2.287	2.212	2.740	23.02
1930	123.1	2.623	2.619	2.910	27.31	2.131	2.128	2.364	22.19
1940	132.0	2.859	2.935	3.119	30.28	2.166	2.223	2.363	22.94
1950	151.2	2.936	3.315	3.458	33.86	1.942	2.192	2.287	22.39
1960	180.0	3.041	3.575	3.956	38.89	1.689	1.986	2.198	21.61
1970	203.8	3.231	3.937	4.605	43.97	1.585	1.932	2.260	21.58
1980	227.2	3.662	4.595	5.482	52.88	1.612	2.022	2.413	23.28
1981	229.5	3.675	4.630	5.573	53.68	1.601	2.017	2.428	23.39
1982	231.8	3.692	4.656	5.648	54.35	1.593	2.009	2.437	23.45
1983	234.0	3.713	4.676	5.732	55.02	1.587	1.998	2.450	23.51
1984	236.2	3.723	4.717	5.837	55.71	1.576	1.997	2.471	23.59

Source: U.S. Department of Commerce, Bureau of Economic Analysis; data for 1920 from *Statistical Abstract of the United States 1985*, Bureau of the Census.

Note: Alaska and Hawaii not included in U.S. totals prior to 1958. States of the Southeast are Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia.

in-migration exceeds out-migration, the statistical measure "net migration" is a positive number and shows that population has been attracted to that state. An important possible reason for changes in migration patterns among states is a change in relative levels of economic well-being and economic opportunity. But improved economic conditions can also be indicated by a reduction in the degree of negative net migration (excess of out-migration over in-migration). While negative net migration indicates that population is moving from a state, possibly because of poor economic conditions, a decrease in the rate of such exodus suggests that the unfavorable economic conditions are becoming less unfavorable. It therefore is interesting to examine the annual rates of net migration for Kentucky and to note both the direction of change (negative or positive net migration) and whether the degree of net migration is increasing or decreasing.

Table 1-B shows net migration for Kentucky for the period 1955 to 1983. Because the annual amounts are influenced by irregular forces, the data presented are in the form of a three-year moving average. (In a three-year moving average, the original values for 1954, 1955, and 1956 are averaged and shown as the moving-average amount for 1955; the original values for 1955, 1956, and 1957 are averaged and shown as the moving-average amount for 1956; and so forth.) Because the 1985 value is not available, no moving-average amount is shown for 1984. The general picture for Kentucky for the period 1955 to 1983 is negative net migration from 1955 to 1969, positive net migration from 1970 to 1979, and negative net migration again from 1980 to 1983. Insofar as the net migration data reflect the overall economic situation in Kentucky, there was improvement in economic conditions especially from about 1962 to 1975, during which time the rates of negative net migration grew smaller and changed to increasing rates of positive net migration. But after 1975, the rates of positive net migration declined and have changed to negative net migration. It is too early to know whether the rates of negative net migration in the 1980s will get larger, indicating further relative economic decline, or whether the negative rates will begin to decline and change to positive net migration, indicating relative economic improvement.

TABLE 1-B

Average Net Migration of Population, Kentucky, 1955-1984

	Annual Net Migration, Calculated as a 3-Year Moving Average				
Year	(Thousands of Persons)	Year	(Thousands of Persons)	Year	(Thousands of Persons)
1955	− 51	1965	− 18	1975	+ 31
1956	− 40	1966	− 16	1976	+ 30
1957	− 30	1967	− 9	1977	+ 24
1958	− 14	1968	− 8	1978	+ 13
1959	− 8	1969	− 9	1979	+ 7
1960	− 13	1970	+ 8	1980	− 3
1961	− 16	1971	+ 19	1981	− 7
1962	− 23	1972	+ 24	1982	− 9
1963	− 15	1973	+ 17	1983	− 7
1964	− 18	1974	+ 23	1984	n/a

Source: The 3-year moving average of Annual Net Migration was calculated within the Kentucky Economic Information System (KEIS) from annual net migration data stored in the KEIS database (see note below). Calculation of a 3-year moving average for 1984 was not possible since 1985 data were not available when this table was prepared.

Annual population estimates are made by the Bureau of the Census, U.S. Department of Commerce and published in the P-25 *Current Population Series*. Data for 1960, 1970, and 1980 are April 1 estimates; data for all other years are July 1 estimates. Data on births and deaths originate from the Kentucky Cabinet for Human Resources; the July 1 estimates on births and deaths used to compute net migration are made by the Bureau of the Census.

Note: Annual net migration is the number of persons moving into Kentucky less the number of persons moving out of Kentucky; it represents that part of the difference between the population of one year and the next that is not accounted for by adding births and subtracting deaths. A negative amount indicates population loss. It should be borne in mind that the annual intercensal estimates of births and deaths are not revised, although the annual total population estimates are revised as a result of subsequent censuses and other information. Another difficulty with annual net migration data is the use of April 1 estimates for censal years and July 1 estimates for all other years.

In other words, estimates of annual net migration are subject to error. Because of this, the figures presented in this table represent a moving average of actual estimates. That is, the figure presented for any given year is an average of the estimates for that year and the preceding and following years. The resulting figures should be interpreted as indicators of the direction and general magnitude of net migration.

Table 1-C compares net migration moving-average data (Table 1-B) and per capita personal income data (Table 3-A) to determine whether changes in Kentucky's economic well-being, relative to that of the nation, are similarly reflected in the two economic series. The per capita personal income series shows the Kentucky annual amounts as percentages of the national annual amounts; an increasing Kentucky percentage indicates economic improvements while a decreasing Kentucky percentage indicates relative decline

TABLE 1-C

Comparison of Net Migration with Kentucky Per Capita Personal Income as a Percent of U.S. Per Capita Personal Income

Year	Kentucky Net Migration (Thousands of Persons, 3-Year Moving Average)	Per Capita Personal Income Kentucky as % of United States (Percent)
1955	− 51	70.4%
1956	− 40	71.2
1957	− 30	71.2
1958	− 14	72.9
1959	− 8	72.4
1960	− 13	71.9
1961	− 16	74.2
1962	− 23	74.5
1963	− 15	75.2
1964	− 18	73.7
1965	− 18	74.6
1966	− 16	75.7
1967	− 9	76.5
1968	− 8	76.4
1969	− 9	77.5
1970	+ 8	78.5
1971	+ 19	78.8
1972	+ 24	79.4
1973	+ 17	79.8
1974	+ 23	82.9
1975	+ 31	82.0
1976	+ 30	82.7
1977	+ 24	83.0
1978	+ 13	81.7
1979	+ 7	82.0
1980	− 3	80.5
1981	− 7	81.2
1982	− 9	81.7
1983	− 7	79.7
1984	n/a	80.5

Source: Same as Table 1-B and U.S. Department of Commerce, Bureau of Economic Analysis, through the Kentucky Economic Information System.

in Kentucky's economic conditions. The two series move generally in similar patterns. The peak of economic improvement in the net migration series was 1975 and the entire period 1970 to 1979 had positive net migration. For the per capita personal income series, Kentucky's percentage of the national amount was high and increasing during the 1970 to 1979 period, peaked in 1977, and has declined to a lower level in the period since 1979.

Several of the economic comparisons presented in the tables are highlighted in the following illustrations. Figure 1-A compares the percentage population increase in the period 1960 to 1984 for the nation, the Southeast, and Kentucky, Tennessee, and Georgia, calling attention to Kentucky's relatively low rate of population increase. Figure 1-B compares the net migration and per capita personal income series to illustrate the general pattern of economic improvement in Kentucky up to about 1979 and the relative decline in the 1980s.

Figure 1—A

Percentage Increase in Population from 1960 to 1984
U.S., Kentucky, Tennessee, Georgia & the Southeast Region

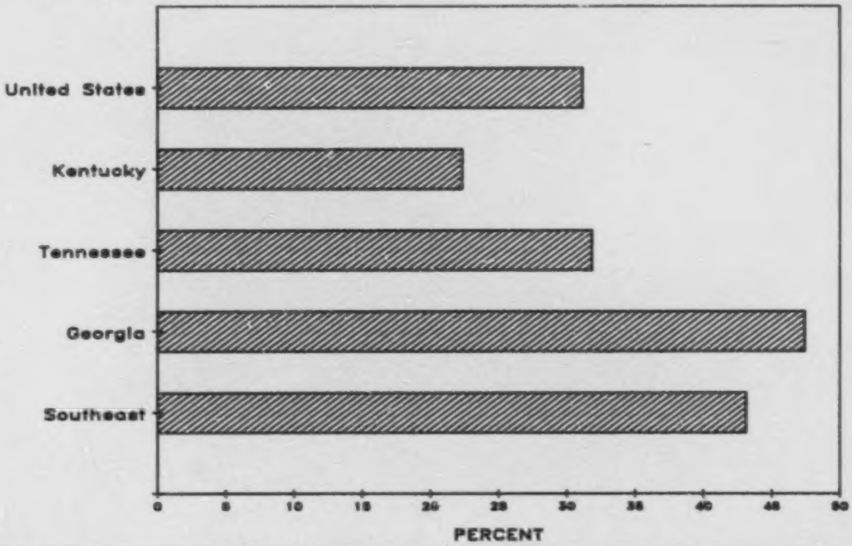
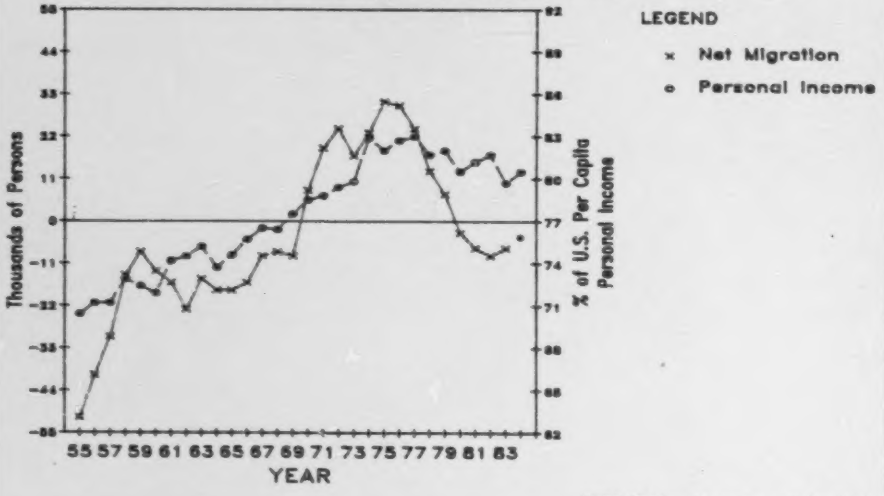


Figure 1—B
Kentucky Per Capita Personal Income as % of U.S. Average Compared with Kentucky Net Migration



• 1984 Moving Average not Available

2. Labor Force, Unemployment, and Earnings Levels

A major part of personal income is labor income to workers, and differences among states in per capita personal income can result from differences in the amount and type of work engaged in by the working-age population. Three important reasons, from many possible reasons, can be cited for a particular state being below, or above, the national average in workers' earnings: the percentage of the working-age population who are working or seeking work; the percentage of workers who, while seeking work, are nevertheless not working; and the level of average pay of workers. Kentucky is examined in this section of the report according to each of these three characteristics.

The civilian labor force participation rate is the percentage of the noninstitutional population age 16 and over who either are employed or are seeking employment. If a state's participation rate is below the national average rate, an above-average percentage of its working-age population is not working and therefore is not creating labor income. A low participation rate could be the result of such causes as an above-average percentage of population who are elderly and have retired from work, or an above-average percentage of wealthy persons who can live from property income instead of from labor income, or a tradition of non-participation by married females. But probably the most important reason for a state having a below-average civilian labor force participation rate is a low level of work opportunities. Consequently, the civilian labor force participation rate is an important indicator of a state's economic performance.

Table 2-A shows civilian labor force participation rates for the 15-year period 1970 to 1984 for Kentucky and the nation and also the Kentucky rates as percentages of the national rates. The 1984 rates, for example, show that for each 100 persons in the noninstitutional population age 16 and over, 64.4 persons were either working or seeking work, on the average nationally, whereas only 61.1 Kentuckians were working or seeking work per 100 possible persons. That is, the Kentucky rate was only 95 percent of the national rate in 1984. Over the 15-year period, the Kentucky participation rate rose from only 91 percent of the national rate in 1970 to a plateau in the 95 to 96 percent range for the period 1973 to 1984. A Kentucky rate only 95 percent of the national average rate suggests that additional labor income of approximately 5 percent would be created in Kentucky if its civilian labor force participation rate were as high as the national average rate.

Another possible reason for a state to be below average in per capita personal income is an above-average rate of unemployment. Table 2-B shows annual rates of unemployment for Kentucky and the nation for the 24-year period 1961 to 1984. Kentucky's unemployment rate was above the national average rate in the period 1961 to 1969, below the national average rate

TABLE 2-A

Annual Rates of Civilian Labor Force Participation, Kentucky and United States, 1970-1984

Year	Kentucky	United States	Kentucky as % of United States
1970	55.0%	60.4%	91%
1971	55.4	60.2	92
1972	55.3	60.4	92
1973	58.3	60.8	96
1974	58.7	61.3	96
1975	57.6	61.2	94
1976	58.5	61.6	95
1977	60.0	62.2	96
1978	60.9	63.2	96
1979	60.3	63.7	95
1980	61.1	63.8	96
1981	60.9	63.9	95
1982	60.9	64.0	95
1983	60.8	64.0	95
1984	61.1	64.4	95

Source: Kentucky rates are calculated within the Kentucky Economic Information System from data produced by the Kentucky Cabinet for Human Resources and the Urban Studies Center, University of Louisville. National data are from the U.S. Department of Labor, Bureau of Labor Statistics.

Note: The Labor Force Participation Rate is the number of employed and unemployed persons as a percentage of the noninstitutional civilian population age 16 and over.

generally from 1970 to 1979, and again above the national rate from 1980 to 1984. These changes illustrate the general improvement in the Kentucky economy until the late 1970s and the relative decline since then.

It is possible to estimate the "lost" labor income resulting from the combined effects of Kentucky's below-average civilian labor force participation rate and above-average unemployment rate, using 1984 data. For the national average, 100 persons in the civilian noninstitutional population age 16 and over are divided as follows: 64.4 persons either working or looking for work, and the other 35.6 persons neither working nor seeking work. But 7.5 percent of the 64.4 persons are unemployed, meaning that only 59.6 of the 100 persons are actually employed. The remaining 40.4 persons are divided into 35.6 persons neither working nor seeking work (not in the civilian labor force), and 4.8 persons seeking work but not working (unemployed). In Kentucky, the 100 persons are divided as follows: 55.4 persons actually working, 38.9 persons neither working nor seeking work (not in the civilian labor force), and 5.7 persons seeking work but not working (unemployed). If Kentucky had the national average rates of labor force participation and unemployment, it would have 59.6 persons actually working instead of only 55.4 persons, per 100 persons in the working-age population. These additional 4.2 workers (59.6 – 55.4) would represent an increase of 7.6 percent in actual employment (4.2 as a percent of 55.4).

Personal income levels among the states are affected not only by labor force participation rates and unemployment rates but also by the levels of average pay of workers. Tables 2-C and 2-D show average annual pay in nonagricultural industries, both in total and by major industry groups, for the nation and for Kentucky, Tennessee, and Georgia for 1984. Two types of comparisons are presented: state averages as percentages of the national averages; and particular industry averages as percentages of group (state or nation) averages. In Table 2-C, average pay in Kentucky, Tennessee, and Georgia is expressed as a percentage of the national average amount, showing whether a particular state is above or below the national average.

TABLE 2-B

Annual Rates of Total Civilian Unemployment, Kentucky and United States, 1961-1984

Year	Kentucky	United States	Percentage Point Difference KY-U.S.
1961	11.2%	6.7%	+4.5
1962	8.1	5.5	+2.6
1963	7.2	5.6	+1.6
1964	7.0	5.2	+1.8
1965	5.5	4.5	+1.0
1966	4.7	3.8	+0.9
1967	4.8	3.8	+1.0
1968	4.7	3.6	+1.1
1969	4.2	3.5	+0.7
1970	4.4	5.0	−0.6
1971	5.1	6.0	−0.9
1972	6.0	5.6	+0.4
1973	3.7	4.9	−1.2
1974	4.5	5.6	−1.1
1975	7.3	8.5	−1.2
1976	5.6	7.7	−2.1
1977	4.7	7.0	−2.3
1978	5.3	6.1	−0.8
1979	5.5	5.8	−0.3
1980	8.0	7.2	+0.8
1981	8.4	7.6	+0.8
1982	10.6	9.7	+0.9
1983	11.6	9.6	+2.0
1984	9.3	7.5	+1.8

Source: Kentucky Cabinet for Human Resources, and the U.S. Department of Labor, Bureau of Labor Statistics, through the Kentucky Economic Information System.

Note: The Unemployment Rate is the number of unemployed persons as a percentage of the civilian labor force.

TABLE 2-C
Average Annual Pay of All Covered Workers
Kentucky, Tennessee, Georgia and the United States, 1984

Industry Group	United States	Kentucky	Tennessee	Georgia	States as a Percent of the U.S.		
					Kentucky	Tennessee	Georgia
Mining	$30,170	$28,567	$21,842	$23,327	94.7%	72.4%	77.3%
Construction	20,733	17,755	16,916	18,024	85.6	81.6	86.9
Manufacturing	22,594	21,342	18,127	17,983	94.5	80.2	79.6
Transportation, Communications and Public Utilities	24,687	21,407	21,983	25,703	86.7	89.0	104.1
Wholesale Trade	22,736	18,966	20,005	23,029	83.4	88.0	101.3
Retail Trade	10,405	9,261	9,776	10,455	89.0	94.0	100.5
Finance, Insurance and Real Estate	20,731	16,839	18,518	20,215	81.2	89.3	97.5
Services	16,044	13,261	14,943	15,151	82.7	93.1	94.4
Government	19,229	17,071	17,151	16,943	88.8	89.2	88.1
All Nonagricultural Industries	18,175	16,532	16,030	16,953	91.0	88.2	93.3

Source: U.S. Department of Labor, Bureau of Labor Statistics, *News—Average Annual Pay by State and Industry, 1984*, USDL 85-320.

Note: Average Annual Pay is computed by dividing total annual earnings of employees covered by unemployment insurance programs by the average monthly number of these employees. Average annual pay data only approximate annual earnings because an individual may not be employed by the same employer all year or may work for more than one employer.

For all nonagricultural industries, all three states are below the national average pay level, with Tennessee being most below average (88.2 percent), Georgia being least below average (93.3 percent), and Kentucky in between (91.0 percent). These can be interpreted as meaning that, for each $100 paid for the average job nationally, the average Kentucky job paid only $91. While some of the difference in annual pay results from differences in unemployment rates and part-time work, major causes are the differences among states in wage rates and in distribution of workers among industries. Kentucky is helped by its relatively high pay in mining, while Georgia gains from its relatively high pay in transportation, wholesale and retail trade, finance, and services. But Georgia loses some of this advantage by being low in average pay in manufacturing. The data in Table 2-C are referred to later in the report relative to the percentage distribution of employment among industry groups, wherein an above-average concentration of workers in a particular industry can cause a state's total average earnings to be above or below the national average depending upon whether that industry is above or below the average in its pay level.

Table 2-D uses the wage data presented in Table 2-C but shows the relative levels of wages in particular industries compared with the group average for all industries. In Kentucky, the mining pay level is 173 percent of the state's average pay level, whereas mining wages nationally are only 166 percent of the nation's average pay level. For the three states and the nation,

TABLE 2-D

Average Annual Pay Index, Nine Industry Groups as Percents of Total, 1984
Kentucky, Tennessee, Georgia and the United States

Industry Group	Average Annual Pay Per Worker (Group Average as Percent of Total) United States	Kentucky	Tennessee	Georgia
Mining	166%	173%	136%	138%
Construction	114	107	106	106
Manufacturing	124	129	113	106
Transportation, Communications, and Public Utilities	136	129	137	152
Wholesale Trade	125	115	125	136
Retail Trade	57	56	61	62
Finance, Insurance, and Real Estate	114	102	116	119
Services	88	80	93	89
Government	106	103	107	100
All Nonagricultural Industries	100	100	100	100

Source: U.S. Department of Labor, Bureau of Labor Statistics. Based upon Table 2-C.

Note: The Average Annual Pay Per Worker calculation takes each geographic group's (U.S., Kentucky, etc.) pay level for each industry as a percent of average pay for all industries. For example, Average Annual Pay of workers in Kentucky mining in 1984 ($28,567, as shown in Table 2-C) was 173 percent of the 1984 all-Kentucky-worker Average Annual Pay ($16,532).

the low paying industries are retail trade and services, while the high paying industries are mining, manufacturing, transportation, and wholesale trade. But within these patterns are unusual differences, such as the relatively low levels shown for wholesale trade and finance in Kentucky, and the relatively low levels for manufacturing in Tennessee and Georgia.

The following relationships selected from the tables are illustrated in graphs. Figure 2-A shows annual unemployment rates for Kentucky and the nation and highlights the period 1973 to 1979 when Kentucky's rate was below the national rate. Figure 2-B shows the number of actual workers, per 100 persons in the working-age population, for Kentucky and the nation, considering the rates of unemployment and labor force participation. Figure 2-C compares Kentucky and the nation in average annual pay by nine industry groups and the total, showing the various degrees by which pay levels are below average in Kentucky. Figure 2-D shows, for Kentucky only, the degrees by which particular industries are above or below the state average in annual average pay level.

Figure 2—A

Annual Rates of Total Civilian Unemployment
Kentucky and United States, 1961—1984

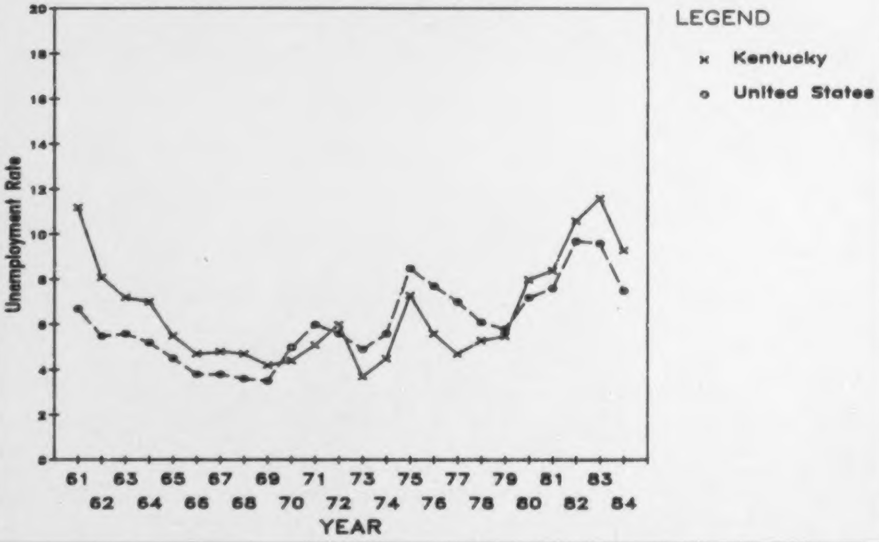


Figure 2—B

Labor Force Participation and Employment as Percent of Working Age Population (Civilian)
Kentucky and United States, 1984

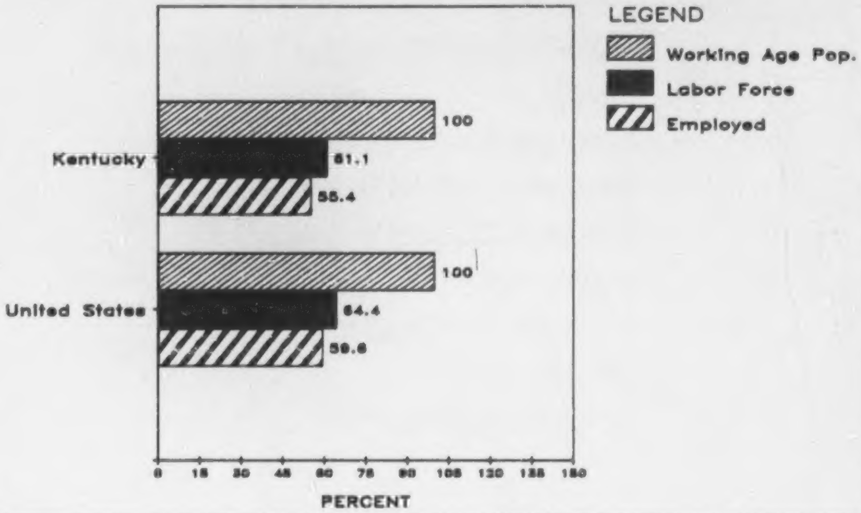


Figure 2—C

Average Annual Pay of Covered Workers
Kentucky as Percent of United States Average, 1984

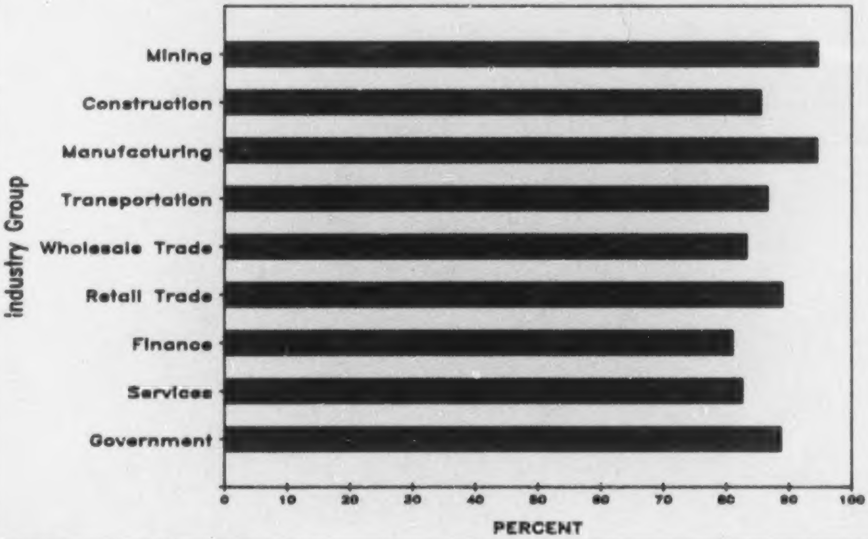
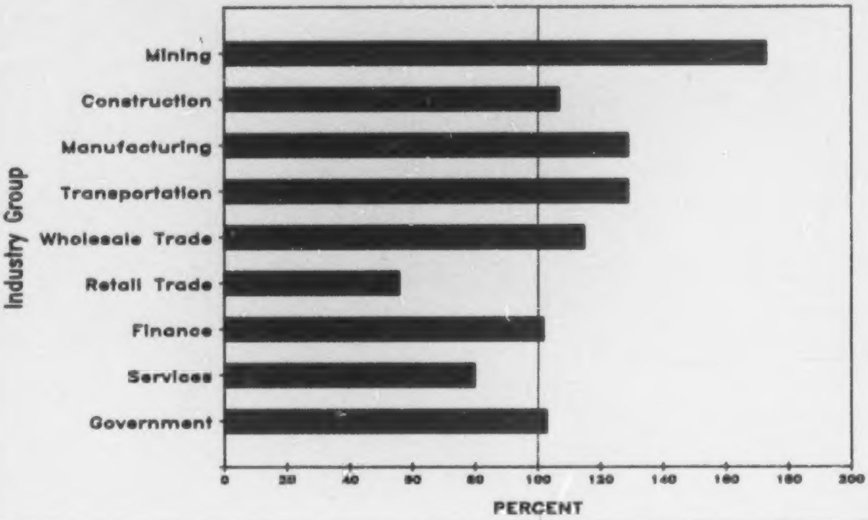


Figure 2-D
Average Annual Pay by Industry Group
as Percent of State Average Pay for all Non-Ag. Industries
Kentucky, 1984



3. Personal Income by Levels and Sources

The broadest measure of economic activity for which statistics are published for each of the 50 states is total personal income—the total of all income received by persons who are residents of a state. Because state economies differ greatly in absolute size, most comparisons of income data among states are made in terms of per capita personal income, which is a state's total personal income divided by its resident population. Further to simplify interstate comparisons, the dollar amount of per capita personal income in each state can be expressed as a percentage of per capita personal income for the nation. States with percentages above or below 100 are easily identified as being above or below the national average, and changes in these percentages over the years indicate which states are moving closer to, or farther away from, the national average of per capita personal income.

Particular states can also be compared in this manner with the average of a group of states; for example, Kentucky amounts can be shown as percentages of the average amount for the 12 Southeastern states. Other useful interstate comparisons of personal income can be made in terms of the degree of annual growth over the years. A common method is to express the income amounts for each year as percentages of the amount in a particular year, such as 1970. Differences and changes in the major sources of personal income can be easily compared by expressing each part as a percentage of the total. These types of comparisons of personal income are presented in the following three tables.

Table 3-A compares Kentucky, Tennessee, Georgia and the Southeast in terms of per capita personal income for 1940, 1950, 1960, and the 15-year period 1970 to 1984. The amounts shown are percentages of the national average, in the first four columns, and percentages of the Southeastern average in the last three columns. Values smaller than 100 indicate that per capita personal income for that state in that year is below the group average (nation, or Southeast), values larger than 100 indicate an above-average income level, and changes over the years indicate whether a state is moving closer to, or farther away from, the average. Note that a decrease from one year to the next, such as from 81.7 to 79.7 percent of the national average for Kentucky between 1982 and 1983, does not mean that Kentucky suffered a decline in dollars of personal income per capita. Instead, the decline in the percentage indicates only that Kentucky's per capita personal income did not increase by as much as the national average increased.

All of the values in the first four columns of Table 3-A are less than 100, indicating that income levels are below the national average for Kentucky, Tennessee, and Georgia and also the Southeast. But much improvement is shown over the years, with Kentucky increasing from only 54 percent of the national average in 1940 to 80.5 percent in 1984. During the 1970s,

TABLE 3-A
Per Capita Personal Income, Kentucky, Tennessee, Georgia, and the Southeast Region Relative to the United States, 1940-1984

	Per Capita Personal Income as % of National Average				Per Capita Personal Income as % of Southeast Average		
Year	**Kentucky**	**Tennessee**	**Georgia**	**Southeast**	**Kentucky**	**Tennessee**	**Georgia**
1940	54.0	57.2	56.7	57.7	93.5	99.1	98.2
1950	65.6	68.1	70.6	69.2	94.8	98.4	102.1
1960	71.9	71.1	74.8	73.6	97.6	96.5	101.6
1970	78.5	78.5	84.2	82.0	95.7	95.7	102.7
1971	78.8	79.9	85.4	83.1	94.8	96.2	102.8
1972	79.4	81.2	87.1	84.3	94.2	96.2	103.3
1973	79.8	82.1	87.2	84.9	94.0	96.7	102.8
1974	82.9	82.1	86.5	85.5	96.9	96.0	101.2
1975	82.0	81.6	85.1	84.9	96.5	96.1	100.2
1976	82.7	82.3	85.6	85.3	96.9	96.4	100.4
1977	83.0	81.8	85.3	85.3	97.3	95.9	99.9
1978	81.7	82.7	86.0	85.7	95.3	96.5	100.3
1979	82.0	81.8	85.3	85.5	95.9	95.7	99.7
1980	80.5	81.0	84.7	85.8	93.8	94.4	98.7
1981	81.2	80.9	85.1	86.3	94.0	93.6	98.5
1982	81.7	81.0	86.6	86.9	94.0	93.3	99.7
1983	79.7	81.4	89.1	87.5	91.1	93.0	101.9
1964	80.5	81.5	90.3	87.4	92.1	93.2	103.3

Source: U.S. Department of Commerce, Bureau of Economic Analysis, through the Kentucky Economic Information System.

Note: States of the Southeast Region are: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia.

Kentucky continued to move closer to the national average in per capita personal income, reaching a peak in 1977 when Kentucky's income level was 83 percent of the national average. Since 1977, Kentucky's income level has declined relative to the national average.

Also of interest is whether Tennessee, Georgia, and the Southeast experienced similar changes. All of them increased greatly between 1940 and 1984, but the period since 1970 shows differences among these states. Tennessee's highest year was 1978; and while its peak level was less than Kentucky's peak level, Tennessee's decline from 1978 to 1984 was less than that for Kentucky. Comparing only 1970 and 1984, Tennessee gained slightly on Kentucky. Georgia's gain in per capita personal income was greater than that for Kentucky, Tennessee, and the Southeast, not only between 1940 and 1984 but also between 1970 and 1984. Moreover, Georgia's relative income level continued to rise, with the 1984 level higher than that in either 1977 or 1978, although Georgia did experience a relative decline in the mid-1970s. The Southeast also showed increase relative to the nation over most of the 1970 to 1984 period.

The differences between Kentucky, Tennessee, and Georgia in per capita personal income levels relative to the Southeastern average are shown in the last three columns of Table 3-A, with the state amounts expressed as percentages of the Southeastern average. During the 1970 to 1984 period, Georgia generally held its above-average position while Kentucky and Tennessee declined relative to the Southeast after 1977 and 1978. The 1984 values for all three states, however, showed gains on the Southeastern average.

Table 3-B presents the same per capita personal income data as in Table 3-A but in a form designed to emphasize growth over the years. The exaggeration effects of inflation have been removed by stating per capita personal income in dollars of constant purchasing power. All values for a particular state are expressed as percentages of the state's value in 1970, whereby the 1970 amounts become 100 percent and growth is shown by the values increasing over the years. Comparing 1940 and 1984, the largest degree of growth was in Georgia, followed closely by the Southeast. Tennessee's growth was less than Georgia's but more than Kentucky's. The national average growth was smallest, indicating that the three states and the Southeast experienced per capita personal income increases larger than the national average over the period 1940 to 1984. Between 1970 and 1984, much the same pattern is shown. But between particular years, declines are shown for Kentucky in 1975, 1980, and 1983, but Kentucky had a substantial gain in 1984. Declines are also shown for Tennessee (1974, 1975, 1980,

TABLE 3-B

Growth in Per Capita Personal Income, Kentucky, Tennessee, Georgia, the Southeast Region, and the United States, 1940-1984, in Dollars of Constant Purchasing Power

(Index Numbers: 1970 = 100)

Year	Kentucky	Tennessee	Georgia	Southeast	United States
1940	30.7	30.1	27.8	31.5	44.7
1950	51.3	49.3	47.7	51.9	61.5
1960	66.2	65.4	64.2	64.9	72.3
1970	100.0	100.0	100.0	100.0	100.0
1971	101.6	103.1	102.6	102.6	101.2
1972	107.1	109.4	109.4	108.9	105.9
1973	113.0	116.2	115.1	115.0	111.1
1974	115.9	114.8	112.8	114.4	109.7
1975	114.2	113.6	110.5	113.2	109.3
1976	119.4	118.8	115.3	117.9	113.4
1977	124.3	122.5	119.0	122.3	117.6
1978	127.3	128.8	124.8	127.8	122.2
1979	130.4	130.1	126.4	130.2	124.8
1980	127.6	128.3	125.0	130.2	124.4
1981	131.5	130.9	128.3	133.8	127.1
1982	131.6	130.6	130.1	134.0	126.5
1983	130.3	133.0	135.7	136.9	128.3
1984	139.6	141.2	145.9	145.1	136.1

Source and Note: Same as Table 3-A.

and slightly in 1982), Georgia (1974, 1975, and 1980), the Southeast (1974 and 1975), and the nation (1974, 1975, 1980, and 1982). It is interesting to note that Kentucky's increase between 1983 and 1984 (9.3 percentage points) was second highest only to Georgia's 10.2 points, and that Kentucky's gain was larger than that for Tennessee and the Southeast (both 8.2 points), and the nation (7.8 points).

Table 3-C compares Kentucky and the nation over the period 1958 to 1984 according to the relative importance of major sources of personal income. The largest source of personal income is total (farm and nonfarm) labor and proprietors' income, which accounted for over 70 percent of the total in 1984 for both Kentucky and the nation. Within this total, however, Kentucky differs from the nation in having a greater importance of the agricultural sector. The share of total personal income from *farm* labor and proprietors' income was twice or more than for the nation in nearly all years shown, and the relative importance of farming in Kentucky, according to these data, appears to have increased slightly for 1984, compared with the

TABLE 3-C

Relative Importance of Sources of Personal Income, Kentucky and United States, 1958-1984

	Sources as Percentages of Total Personal Income							
	Labor and Proprietors' Income							
	Farm		Nonfarm		Transfer Payments		Investment Income	
Year	Kentucky	United States	Kentucky	United States	Kentucky	United States	Kentucky	United States
1958	8.2%	4.3%	71.8%	78.0%	9.1%	7.2%	10.5%	12.4%
1961	7.9	3.6	69.4	77.7	11.5	7.9	11.1	13.2
1964	5.6	2.8	73.3	78.0	9.5	7.6	12.0	14.1
1967	5.4	2.6	74.4	78.2	10.3	8.4	11.3	14.1
1970	4.3	2.3	74.5	77.4	11.4	10.0	11.1	13.9
1971	4.1	2.2	74.4	76.8	12.4	11.0	11.2	13.7
1972	4.6	2.4	74.2	76.8	12.4	11.1	10.9	13.3
1973	4.9	3.5	74.1	75.7	13.3	11.3	10.9	13.5
1974	5.0	2.7	72.6	75.0	13.9	12.2	11.9	14.2
1975	3.5	2.4	72.0	73.4	16.0	14.2	11.8	14.0
1976	3.8	1.9	72.3	74.2	15.6	14.0	11.8	13.9
1977	3.8	1.7	72.6	74.6	14.9	13.5	12.0	14.2
1978	3.4	1.9	73.9	74.6	14.3	13.0	12.1	14.6
1979	3.5	2.0	73.2	74.0	14.6	12.9	12.6	15.3
1980	2.8	1.4	71.0	72.5	16.2	13.8	13.9	16.4
1981	3.8	1.6	68.5	70.7	16.2	13.9	15.5	18.1
1982	3.4	1.2	67.0	69.7	16.7	14.6	16.7	18.8
1983	1.7	0.9	68.0	70.2	17.5	14.8	16.5	18.5
1984	3.5	1.4	67.3	70.2	15.9	13.8	16.9	19.0

Source: U.S. Department of Commerce, Bureau of Economic Analysis; through the Kentucky Economic Information System.

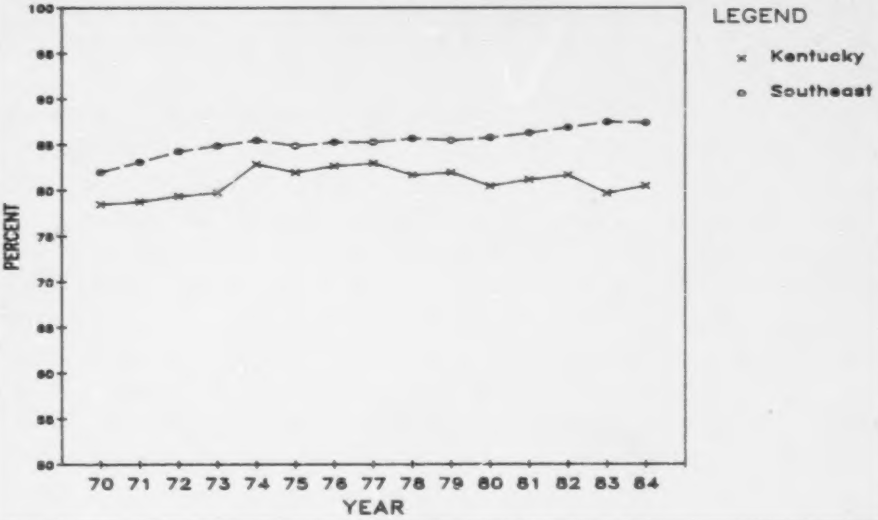
Note: Investment Income includes personal interest income, dividends, and rental income. The above parts may not total 100 percent in some years, because the residence adjustment is not shown. See the glossary for a full explanation of the composition of Total Personal Income.

nation. But over the entire period, the total of farm and nonfarm labor and proprietors' income has become less important for both Kentucky and the nation. This change can be seen by summing the farm and nonfarm labor and proprietors' income amounts, or alternatively by summing the two other sources of personal income—transfer payments and investment income—which have become relatively more important over the years in both Kentucky and the nation.

Kentucky consistently exceeded the nation in transfer payments as a source of personal income. Also, the importance of transfer payments increased for both Kentucky and the nation over the years until a decline in 1984. Investment income also has grown in importance over the years for both Kentucky and the nation, with the overall gain slightly larger for Kentucky than for the nation since 1970. Both Kentucky's greater importance of transfer payments and lesser importance of investment income reflect the below-average economic position of Kentucky compared with the nation. That is, transfer payments include governmental income supports related to need, and investment income reflects the ownership of wealth. While some slight increases in Kentucky's relative shares can be seen in both the transfer payments and investment income data (and therefore a decline in the relative share for total labor and proprietors' income), the overall pattern shows Kentucky to differ from the nation in essentially an unchanged pattern over the period 1958 to 1984. The changes in Kentucky have approximately been matched by changes in the nation, leaving Kentucky's relative position essentially unchanged as to relative importance of the major sources of personal income.

One of the more important relationships in the personal income data is illustrated by Figure 3-A. It shows per capita personal income as a percentage of the national average for Kentucky and the Southeast for the period 1970 to 1984, emphasizing the relatively less favorable changes in Kentucky since the late 1970s.

Figure 3–A
Per Capita Personal Income
Kentucky and the Southeast Region Relative to the United States
1970–1984



4. Employment and Income in Eight Industry Groups

The relative importance of the eight major industry groups in both employment and income are shown in Table 4-A for Kentucky and the nation for 1960, 1970, 1980, and 1984. Amounts are percentages of totals for all nonagricultural wage and salary workers. Because the industry comparisons presented later in this report are in terms of employment data (number of workers employed) instead of income data (amounts of income earned), Table 4-A is presented to illustrate the similarities and differences of industry importance as shown in employment data as compared with income data.

In 1984, for example, Kentucky had 6.5 percent of total nonagricultural wage and salary *income* derived from the mining industry, but mining *employment* contributed only 3.8 percent to total employment. Referring back to Table 2-D, average annual pay levels in the Kentucky mining industry were 173 percent of the Kentucky average for all workers in 1984. It would be expected, therefore, that the percentage importance of mining would appear larger when measured by income than when measured by employment. In fact, 6.5 as a percentage of 3.8 is 171 percent which, allowing for rounding in the data, is essentially the same as 173. This suggests that most of the difference between the income and employment data in Table 4-A can be explained by the average pay level differences among industries, shown in Table 2-D. Average earnings differences result from differences among industries in wage rates and number of hours worked per year.

Also in 1984, 14.9 percent of Kentucky wage and salary income was in the services industry, but that industry accounted for 19.3 percent of total Kentucky nonagricultural wage and salary employment. Dividing 14.9 by 19.3, the result is 77, which suggests that average earnings in the services industry were only about 77 percent of the Kentucky average. Allowing for rounding, 77 is essentially the same as the 80 percent as shown in Table 2-D. Similar differences between the income and employment data for the other industry groups are explained mainly by the differences between Kentucky and the United States in the degrees to which average wage levels in particular industries differ from the state and national averages for all workers.

Although there are differences between the income data and the employment data in Table 4-A, as described above, the largest of the industry groups in both income and employment for all years shown until 1984 is manufacturing. Further, the manufacturing industry was a larger percentage of total income and employment in Kentucky than in the nation, in 1970, 1980, and 1984. In addition, mining is a much larger source of income and employment in Kentucky than in the nation, and this difference has remained fairly constant over the years shown.

TABLE 4-A
Nonagricultural Wage and Salary Income and Employment: Relative Importance of Eight Industry Groups, Kentucky and the United States, Selected Years, 1960-1984
(Industry Amounts as Percent of Total Nonagricultural Wage and Salary Amounts)

Nonagricultural Industry	1960		1970		1980		1984	
	Kentucky	United States	Kentucky	United States	Kentucky	United States	Kentucky	United States
Income Data[a]								
Mining	5.5%	1.5%	4.1%	1.1%	7.6%	1.8%	6.5%	1.7%
Construction	6.1	6.1	7.1	6.3	5.9	5.7	4.5	5.2
Manufacturing	30.6	34.7	30.5	30.2	28.0	26.9	27.4	24.9
Durable	16.2	21.1	17.5	18.7	16.7	17.3	16.3	15.8
Nondurable	14.4	13.6	13.0	11.5	11.3	9.6	11.1	9.1
Transportation[b]	10.4	8.8	8.2	7.7	8.2	7.8	7.7	7.5
Trade	17.0	17.6	16.3	17.2	15.9	17.3	16.4	17.3
Finance[c]	3.7	4.9	3.9	5.3	4.2	6.0	4.8	6.9
Services	10.8	11.3	11.3	13.6	12.8	16.6	14.9	19.2
Government[d]	15.7	14.8	18.6	18.3	17.1	17.5	17.5	17.1
Employment Data								
Mining	5.2	1.3	3.1	0.9	4.4	1.1	3.8	1.0
Construction	5.5	5.4	5.2	5.1	4.8	4.8	4.1	4.6
Manufacturing	26.2	31.0	27.8	27.3	22.8	22.4	21.4	20.6
Durable	13.0	17.5	15.0	15.8	12.8	13.5	11.8	12.2
Nondurable	13.2	13.5	12.8	11.5	10.0	9.0	9.6	8.4
Transportation[b]	8.0	7.4	6.4	6.4	5.7	5.7	5.4	5.5
Trade	21.4	21.0	19.8	21.2	21.6	22.5	23.2	23.4
Finance[c]	3.8	4.9	3.9	5.1	4.3	5.7	4.6	6.0
Services	13.0	13.6	14.8	16.3	17.4	19.8	19.3	22.0
Government[d]	16.8	15.4	19.0	17.7	19.1	18.0	18.3	16.9

Source: U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Department of Labor, Bureau of Labor Statistics; and Kentucky Cabinet for Human Resources. All Kentucky data through the Kentucky Economic Information System.

Notes

[a] Amounts do not sum to 100 percent because of rounding and also because data on the category Agricultural Services, Fisheries, Forestries and Other, a small nonagricultural group, is not in the income data. This group is included within the Services category in the employment data.

[b] The category Transportation is a composite of the Transportation, Communications and Public Utilities industries.

[c] The category Finance is a composite of the Finance, Insurance and Real Estate industries.

[d] Government excludes military personnel.

Table 4-B uses only the employment data to show changes in the eight industry groups over the period 1970 to 1984 for Kentucky and the nation. All values are percentages of the 1970 values; in all cases the 1970 values are 100 percent. While slightly different patterns would be shown by income data, the comparison is presented only in employment data—that is, number of persons employed. It is interesting that the 1984 index values for total nonagricultural wage and salary employment were identical at 133 for Kentucky and the nation. Between 1970 and 1984, the growth differed not only among industries but also between Kentucky and the nation. Largest growth was for the services industry, for both Kentucky and the nation, with national growth exceeding that of Kentucky. Large degrees of growth also occurred in mining, trade (wholesale and retail), and finance.

The smallest degree of growth was in manufacturing, both in Kentucky and the nation, with the number of persons employed in some years being less than in 1970 (index values less than 100). Kentucky had only three years with manufacturing employment index values below 100 while the nation had six such years. Because Kentucky's manufacturing employment rose to a greater degree in the late 1970s, compared with the nation, the low levels in Kentucky in 1982 and 1983 represented a larger decline even though their levels were about the same as in the nation in those years. Kentucky's growth in construction employment exceeded the national average in the late 1970s but the reverse has been true in the 1980s. Much the same occurred in the transportation industry. The peak in Kentucky economic performance in the late 1970s and its later relative decline is shown not only in the Kentucky employment series, especially total employment, but also in a comparison of the Kentucky and national series by industries.

Graphics related to the industry comparisons show the differences between the income and employment data and the differences between Kentucky and the nation in total employment growth. Figure 4-A uses Kentucky data for 1984 to show the differences in relative importance of the eight industry groups when measured by income as compared with employment. Figure 4-B compares employment in Kentucky and the nation using the nonagricultural totals and also the mining industry. Note the greater variation over the years in mining employment in Kentucky than in the nation, and the relative peak and later decline in Kentucky total employment, which effect is not found in the national data.

TABLE 4-B

Nonagricultural Wage and Salary Employment Growth, Eight Industry Groups, Kentucky and United States, 1970-1984

(Index Numbers: 1970 = 100)

Year	Total	Mining	Construction	Manufacturing	Transportation	Trade	Finance	Services	Government
Kentucky									
1970	100	100	100	100	100	100	100	100	100
1971	102	107	105	99	100	104	103	103	105
1972	109	112	117	106	100	111	103	110	109
1973	114	113	120	114	102	118	107	116	113
1974	117	142	114	115	103	122	113	121	115
1975	116	166	106	103	102	124	116	125	121
1976	121	167	114	108	103	130	122	132	123
1977	126	174	123	113	109	138	130	138	123
1978	133	186	143	116	114	147	137	146	128
1979	137	195	145	117	119	149	144	152	133
1980	133	189	122	109	116	145	147	157	134
1981	131	190	111	107	115	145	147	160	130
1982	128	189	106	97	111	145	145	161	132
1983	127	151	98	96	106	148	149	166	126
1984	133	162	104	102	110	156	155	173	128
United States									
1970	100	100	100	100	100	100	100	100	100
1971	100	98	103	96	99	102	103	102	103
1972	104	101	108	99	101	106	107	106	106
1973	108	103	114	104	103	110	111	111	109
1974	110	112	112	104	105	113	114	116	113
1975	109	121	98	95	101	113	114	120	117
1976	112	125	100	98	101	118	117	126	118
1977	116	131	107	102	104	123	123	132	121
1978	122	137	118	106	109	130	130	141	125
1979	127	154	124	109	114	134	136	148	127
1980	128	165	121	105	114	135	142	155	129
1981	129	183	117	104	114	137	145	161	128
1982	126	181	109	97	113	136	147	165	126
1983	127	153	110	95	110	139	150	170	126
1984	133	156	121	100	115	147	156	180	127

Source: U.S. Department of Labor, Bureau of Labor Statistics, and Kentucky Cabinet for Human Resources, through the Kentucky Economic Information System.

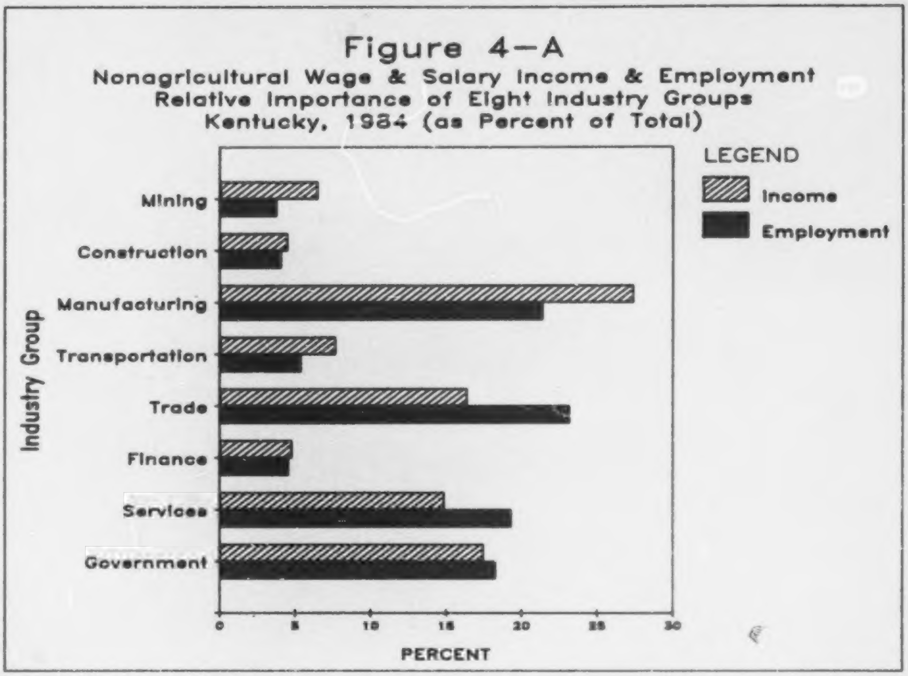


Figure 4—A
Nonagricultural Wage & Salary Income & Employment
Relative Importance of Eight Industry Groups
Kentucky, 1984 (as Percent of Total)

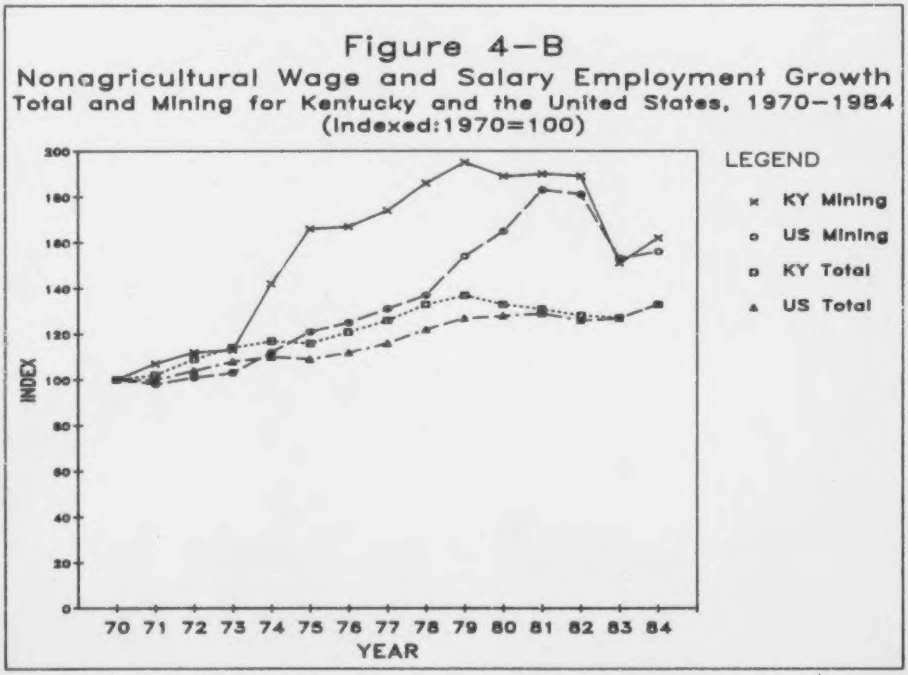


Figure 4—B
Nonagricultural Wage and Salary Employment Growth
Total and Mining for Kentucky and the United States, 1970–1984
(Indexed:1970=100)

5. Growth and Change in Manufacturing Employment

Table 5-A compares Kentucky and the nation according to the division of total manufacturing employment between durable and nondurable goods manufacturing, for selected years from 1951 to 1977 and by years from 1980 to 1984. Amounts are shown as percentages of total manufacturing employment. The relative importance, within total manufacturing, of durables vs. nondurables has changed over the years for both Kentucky and the nation, with durables becoming more important. The growth in the importance of durables has been greater in Kentucky than in the nation, but a larger proportion of manufacturing employment in the nation is in durables. In 1951, durable manufacturing accounted for 48 percent of total manufacturing employment in Kentucky but 55.5 percent in the nation. By 1984, Kentucky's emphasis on durables had increased to 55.4 percent compared with 59.4 percent for the nation.

During the period, however, both Kentucky and the nation reached a peak in the percentage of manufacturing employment in durables and both later declined. Kentucky's peak was 58.2 percent in 1974 while the nation's peak was 60.1 percent in 1980. These changes in the relative emphasis on durables vs. nondurables in manufacturing employment are important because average earnings tend to be higher in durables, as a group, and employment tends to vary more widely in durables over the business cycle. Between 1983 and 1984, the increase in relative importance of durable

TABLE 5-A

Manufacturing Wage and Salary Employment: Relative Importance of Durables and Nondurables, Kentucky and United States, 1951-1984

	Durable Manufacturing		Nondurable Manufacturing	
Year	Kentucky	United States	Kentucky	United States
	(Percent of Total	Manufacturing)	(Percent of Total	Manufacturing)
1951	48.0%	55.5%	52.0%	44.5%
1958	47.8	55.4	52.2	44.6
1961	48.6	55.6	51.4	44.4
1964	50.8	56.8	49.1	43.2
1967	52.9	58.8	47.1	41.2
1971	54.0	57.1	46.0	42.9
1974	58.2	59.4	41.8	40.6
1977	56.6	58.9	43.4	41.1
1980	56.1	60.1	43.9	39.9
1981	55.5	60.0	44.5	40.0
1982	53.0	58.8	47.0	41.2
1983	53.2	58.2	46.8	41.8
1984	55.4	59.4	44.6	40.6

Source: U.S. Department of Labor, Bureau of Labor Statistics; and Kentucky Cabinet for Human Resources. Data through the Kentucky Economic Information System.

manufacturing was greater in Kentucky (2.2 percentage points) than in the nation (1.2 points).

Table 5-B shows changes in manufacturing employment for Kentucky and the nation by years over the period 1970 to 1984, with separate series for total, durable, and nondurable manufacturing industries. To simplify the comparisons, the amounts are shown as percentages of their 1970 values. Index values greater than 100 indicate a higher level of employment than in 1970, whereas index values less than 100 indicate that employment was actually less than in 1970. For total manufacturing, Kentucky had three years with index values below 100 whereas the nation had six years with employment below the 1970 level. Also, Kentucky's employment growth in total manufacturing greatly exceeded the national average between 1970 and its peak year 1979 (118 percent of the 1970 amount). The national peak was only 109, also in 1979. Kentucky's total manufacturing employment declined after 1979, as did the nation's manufacturing employment. Kentucky fell to only 96 percent of the 1970 amount by 1983, although it rose to 102 percent in 1984. The nation's total manufacturing employment fell to 95 percent of the 1970 level in 1983 but rose back to the 1970 level in 1984. The absence of national employment growth in manufacturing between 1970 and 1984 is especially unusual in view of the nation's population increase of 32.4 percent during that period (Table 1-A).

TABLE 5-B

Growth in Manufacturing Wage and Salary Employment, Kentucky and the United States, 1970-1984

(Index Numbers: 1970 = 100)

Year	Total Manufacturing Kentucky	Total Manufacturing United States	Durable Manufacturing Kentucky	Durable Manufacturing United States	Nondurable Manufacturing Kentucky	Nondurable Manufacturing United States
1970	100	100	100	100	100	100
1971	99	96	100	95	99	98
1972	106	99	111	99	100	99
1973	114	104	123	106	104	101
1974	115	104	124	106	104	100
1975	103	95	106	95	99	94
1976	108	98	112	99	104	97
1977	113	102	118	103	106	99
1978	116	106	123	110	107	101
1979	118	109	126	114	107	102
1980	109	105	114	109	104	99
1981	107	104	110	108	103	99
1982	97	97	95	98	98	95
1983	96	95	95	96	97	94
1984	102	100	105	103	98	97

Source: U.S. Department of Labor, Bureau of Labor Statistics; Kentucky Cabinet for Human Resources. Data through the Kentucky Economic Information System.

For durable compared with nondurable manufacturing employment, the greater variation of the durables series over the years is clearly shown. The decline in durable manufacturing employment in Kentucky between 1979 and 1983 was 31 percentage points whereas the national decline was only 18 points, although their index values in 1983 were nearly identical. In nondurable manufacturing, the employment fluctuations were much smaller. Also, the two years 1970 and 1984 compare unfavorably for both Kentucky and the nation in nondurable manufacturing because the 1984 employment levels were lower than the 1970 levels. On the bright side, note that employment increased between 1983 and 1984 in all of the six series, with Kentucky's improvement greater than the nation's increases in all three categories; in fact, Kentucky's durable manufacturing employment increased by 10 percentage points.

Selected for illustration in the figures are two of the relationships revealed in the tables. Figure 5-A compares durable and nondurable manufacturing employment in Kentucky over the period 1970 to 1984, illustrating the greater degree of variation in durables. Figure 5-B compares total manufacturing employment in Kentucky and the nation over the period 1970 to 1984, highlighting the greater variation in the Kentucky series.

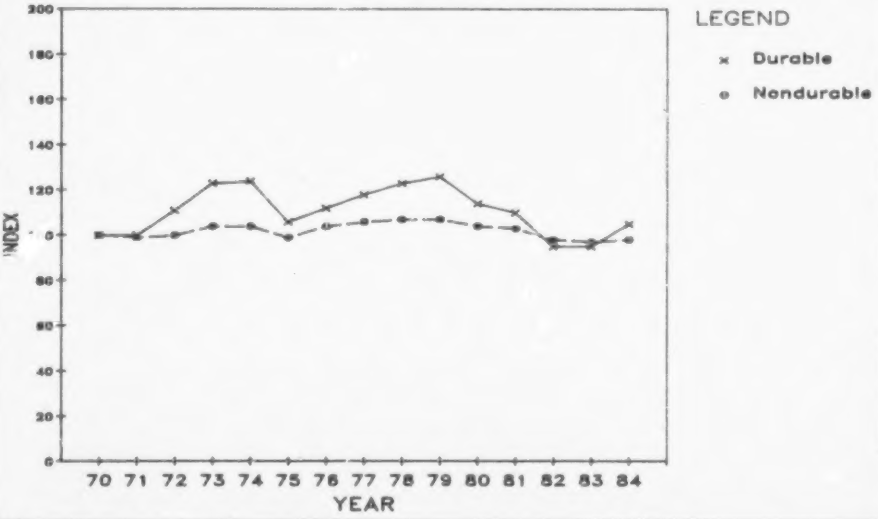
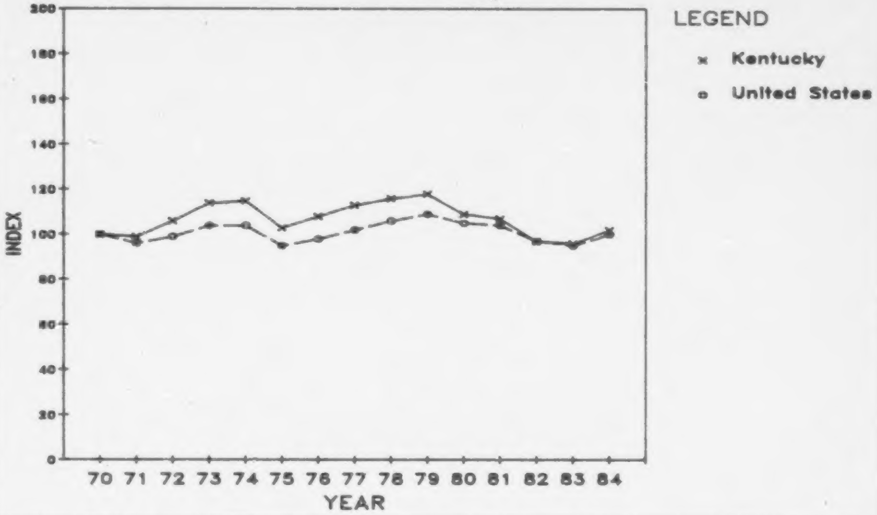


Figure 5—A
Growth in Wage & Salary Employment in Kentucky
Durable and Nondurable Manufacturing, 1970—1984
(Indexed:1970=100)

Figure 5–B

Growth in Manufacturing Wage & Salary Employment
Kentucky and the United States, 1970–1984
(Indexed:1970=100)



6. Employment in Durable Manufacturing

Statistics are available to allow comparisons of employment in nine subgroups within the total of durable manufacturing. Of interest are the relative importance of each subgroup, how its importance differs between Kentucky and the nation, and how these relationships change over the years. Two types of comparisons are presented: the relative importance of each subgroup in the total for selected years, and changes over the years in each of the nine subgroups. While both types of comparisons are based on the same basic data, they are presented in different forms.

Table 6-A compares Kentucky and the nation according to the relative importance of employment in the nine subgroups in durable manufacturing, for 1960, 1970, 1980, and 1984. Amounts are percentages of totals. In 1960, three subgroups (fabricated metals, nonelectrical machinery, and electrical machinery) accounted for 54.9 percent of durable manufacturing employment in Kentucky while these three subgroups accounted for only 43.8 percent nationally. The difference is caused mainly by Kentucky being especially high in electrical machinery and low in transportation equipment. By 1984, these three subgroups as a total showed little change from 1970 in Kentucky, being 55.8 percent of the total; but for the nation they totaled 51 percent. Other important changes between 1960 and 1984 in Kentucky were the increased importance of the nonelectrical machinery and the transportation equipment subgroups, and the reduced importance of the lumber and furniture subgroups. For the nation, increases occurred between 1960 and 1984 in both machinery subgroups, but a large decrease occurred in primary metals. Interestingly, the primary metals subgroup increased in relative importance in Kentucky between 1970 and 1984 (1.7 percentage points) while the nation experienced a decline of 5 points. Concerning all of the nine subgroups, there appears to be slightly less difference between Kentucky and the nation in 1984 than in 1960.

Employment changes in the nine durable manufacturing subgroups are shown in Table 6-B for Kentucky and the nation for each year from 1970 to 1984. Amounts are shown as percentages of the 1970 amounts, with index values above 100 indicating growth since 1970 and index values below 100 indicating employment decline since 1970. Readers are cautioned that confusion can result if the index values are improperly interpreted as indicating the importance of a particular subgroup instead of being properly interpreted as showing only the change from year to year. For example, the electrical machinery subgroup contributed more employees to total employment in Kentucky in 1970 than did any other durable manufacturing subgroup; it was second in importance in 1984 (Table 6-A). Despite this dominance, employment in the electrical machinery subgroup declined by 18 percentage points between 1970 and 1984 (Table 6-B). A small decline in a relatively large subgroup can have as much effect on total employment

TABLE 6-A

Wage and Salary Employment in Durable Manufacturing: Relative Importance of Nine Subgroups Kentucky and United States, Selected Years, 1960-1984 (Amounts as Percents of Total Durable Manufacturing)

Durable Manufacturing	1960		1970		1980		1984	
	Kentucky	United States	Kentucky	United States	Kentucky	United States	Kentucky	United States
Lumber and Wood Products	11.7%	7.0%	6.8%	5.8%	6.1%	5.7%	6.6%	6.1%
Furniture and Fixtures	6.3	3.9	4.9	3.9	3.4	3.8	3.6	4.2
Primary Metals	11.1	12.5	10.5	11.2	12.0	9.4	12.8	7.5
Fabricated Metals	14.7	13.0	13.6	13.9	12.0	13.2	10.5	12.7
Machinery, except Electrical	15.9	15.6	19.7	17.7	24.2	20.5	24.0	19.1
Electrical Machinery	24.3	15.2	27.0	16.7	22.9	17.2	21.3	19.2
Transportation Equipment	6.0	17.8	7.4	16.5	7.5	15.6	10.5	16.5
Stone, Clay, Glass, and Concrete	7.0	6.4	5.3	5.7	5.9	5.4	5.4	5.2
Other Durable Goods	2.8	8.5	4.7	8.5	5.0	9.3	5.4	9.5

Source: U.S. Department of Labor, Bureau of Labor Statistics, and Kentucky Cabinet for Human Resources, through the Kentucky Economic Information System.

Note: Because of rounding, amounts do not sum to 100 percent in all cases.

TABLE 6-B

Wage and Salary Employment Growth, Nine Durable Manufacturing Subgroups, Kentucky and United States, 1970-1984

(Index Numbers: 1970 = 100)

Year	Lumber and Wood Products	Furniture and Fixtures	Primary Metals	Fabricated Metals	Machinery, except Electrical	Electrical Machinery	Transportation Equipment	Stone, Clay, Glass and Concrete	Other
					Kentucky				
1970	100	100	100	100	100	100	100	100	100
1971	99	104	100	93	101	99	102	99	105
1972	117	93	108	107	109	113	106	134	114
1973	125	97	121	119	123	124	122	145	124
1974	121	90	126	117	133	121	136	144	125
1975	95	79	111	100	128	94	118	117	102
1976	107	90	117	108	132	96	124	120	114
1977	105	96	121	119	136	105	142	123	116
1978	111	95	128	117	143	107	159	128	121
1979	115	93	136	113	152	108	158	142	124
1980	101	77	130	100	140	96	116	128	120
1981	99	69	128	97	144	90	122	115	119
1982	83	61	114	83	124	76	108	106	107
1983	90	66	114	77	114	77	121	104	113
1984	101	75	128	81	128	82	149	107	120
					United States				
1970	100	100	100	100	100	100	100	100	100
1971	104	101	93	95	92	93	95	100	95
1972	112	110	93	99	95	97	97	105	100
1973	118	115	100	106	105	105	104	111	106
1974	110	111	102	105	111	105	101	110	110
1975	95	95	90	93	104	91	92	98	100
1976	105	101	92	97	104	95	97	100	105
1977	112	106	94	101	110	100	101	104	111
1978	117	112	96	107	117	107	108	108	116
1979	119	113	100	110	125	113	112	110	119
1980	107	106	91	103	126	112	102	103	119
1981	103	106	89	102	126	112	102	99	119
1982	92	98	73	91	113	107	94	90	115
1983	102	102	66	88	102	108	94	88	112
1984	109	111	68	94	111	118	103	92	115

Source: U.S. Department of Labor, Bureau of Labor Statistics, and Kentucky Cabinet for Human Resources, through the Kentucky Economic Information System.

as a large decline in a relatively small subgroup. In the case of electrical machinery, Kentucky experienced a large decline in an important subgroup.

Between 1970 and 1984, the larger degrees of growth in Kentucky durable manufacturing employment were in primary metals, nonelectrical machinery, and transportation equipment. Declines occurred in furniture, fabricated metals, and electrical machinery. In all of the nine subgroups, except perhaps transportation equipment, employment growth tended to peak in the late 1970s and to decline in the 1980s. Between 1983 and 1984, Kentucky experienced employment increases in all of the nine subgroups, with increases of 10 or more percentage points in lumber, primary metals, nonelectrical machinery, and transportation equipment. Comparing Kentucky and the nation, some differences are noteworthy. Kentucky's improvement contrasts with the nation's decline in primary metals. But the nation's increase in the furniture subgroup contrasts with Kentucky's decrease. Kentucky's growth in the transportation equipment subgroup greatly exceeded the national increase in that subgroup. Kentucky and the nation also differed in employment changes in the stone and clay subgroup, with Kentucky experiencing more growth, especially in the 1970s. Also of interest is that the tendency for Kentucky employment to peak in the late 1970s and decline in the 1980s is shown to a lesser degree for the nation. Finally, the employment increases from 1983 to 1984 were much smaller for the nation than for Kentucky, with only one of the national subgroups (electrical machinery) increasing by 10 percentage points.

Illustrated in Figure 6-A is the percentage distribution of employment among the nine subgroups for Kentucky and the nation in 1984. Shown in Figure 6-B are the primary metals and transportation equipment subgroups for Kentucky and the nation, for the period 1970 to 1984, illustrating Kentucky's much superior performance.

Figure 6–A

Wage & Salary Employment in Durable Manufacturing
Relative Importance of Subgroups, KY & U.S., 1984
(Amounts as Percents of Total Durable Manufacturing)

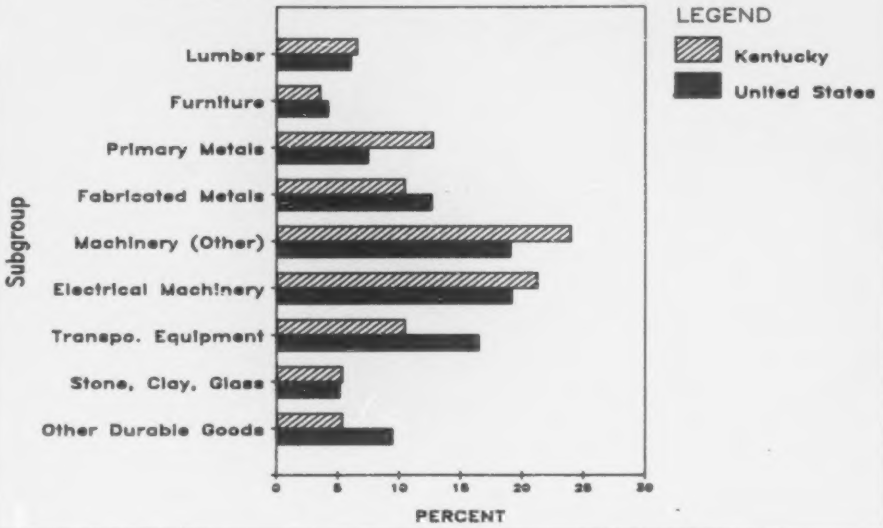
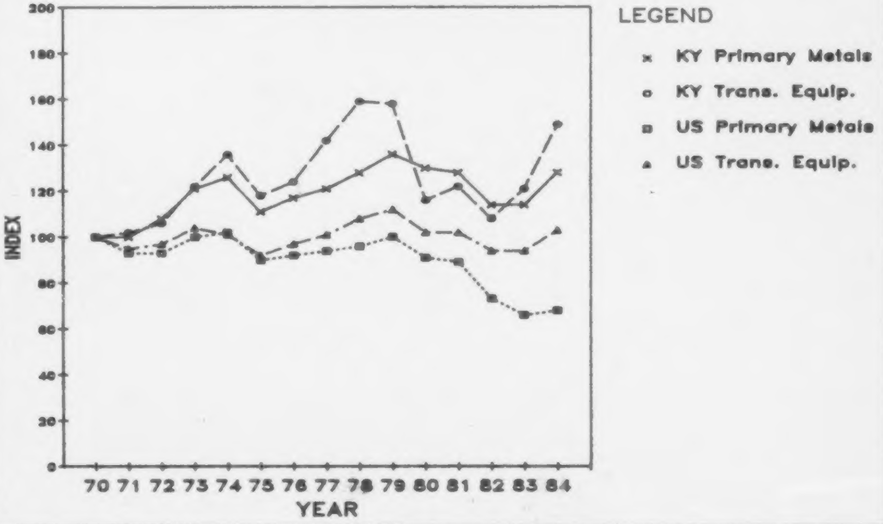


Figure 6–B

Wage & Salary Employment Growth
Primary Metals & Transportation Equip., KY & U.S., 1970–1984
(Indexed: 1970=100)



7. Employment in Nondurable Manufacturing

The analysis of employment in nondurable manufacturing is similar to that for durable manufacturing, with Kentucky and the nation compared over the years according to the relative importance of nine subgroups and the employment changes in these groups. Table 7-A compares Kentucky and the nation in nondurable manufacturing employment according to the relative importance of nine subgroups, for 1960, 1970, 1980, and 1984. Amounts are percentages of totals. The larger Kentucky subgroups in 1960 were the manufacture of food (30.2 percent), apparel (23.5 percent), chemicals (13.1 percent), tobacco (13 percent), and printing (9.4 percent). These five subgroups accounted for 89.2 percent of total nondurable manufacturing employment. In 1984, these five subgroups accounted for 72.6 percent of the Kentucky total, with decreases occurring in the food, tobacco, and chemicals subgroups but with an increase in the printing subgroup. Thus, Kentucky's nondurable manufacturing employment was less concentrated in 1984 than in 1960, with a large decrease in the food subgroup (decline of 13.4 percentage points) and a large increase in the petroleum refining and rubber subgroup (increase of 11.5 points).

Comparing Kentucky and the nation in 1984, Kentucky employment was proportionally less important in the food, textiles, paper, printing, and chemicals subgroups but more important in the tobacco, apparel, and petroleum refining and rubber subgroups. Over the period 1960 to 1984, the changes between Kentucky and the nation that were most important were Kentucky's large declines (as percentages of total) in the food and tobacco subgroups and its increased importance in the textiles, paper and, especially, the petroleum refining and rubber subgroups. In the case of the latter subgroup, employment in Kentucky not only grew, but became proportionally more significant than this industry is in the nation.

Table 7-B compares Kentucky and the nation according to employment changes in nine subgroups in nondurable manufacturing, by years in the period 1970 to 1984. Amounts are percentages of the 1970 values, with index values above 100 indicating employment growth relative to 1970 and index values below 100 indicating declines relative to 1970. Comparing 1970 and 1984, the largest increases in Kentucky were in the paper and petroleum refining and rubber subgroups, with 1984 index values of 159 and 187, respectively. Modest increases occurred in the printing subgroup. For the other six subgroups, the 1984 employment levels were below the 1970 levels. For individual years in the 15-year period 1970 to 1984, employment increases and later declines occurred in the textiles, apparel, chemicals, and leather subgroups, while mostly declines occurred in the food and tobacco subgroups. Even in the subgroups that had higher employment in 1984 than in 1970, the period in between showed some years of modest growth: the printing subgroup declined in the period 1971 to 1975 and the paper

TABLE 7-A

Wage and Salary Employment in Nondurable Manufacturing: Relative Importance of Nine Subgroups, Kentucky and United States, Selected Years, 1960-1984

(Amounts as Percents of Total Nondurable Manufacturing)[a]

Nondurable Manufacturing	1960		1970		1980		1984	
	Kentucky	United States	Kentucky	United States	Kentucky	United States	Kentucky	United States
Food and Kindred Products	30.2%	24.4%	21.3%	21.9%	18.0%	21.1%	16.8%	20.5%
Tobacco	13.0	1.3	11.3	1.0	8.7	0.9	7.7	0.8
Textiles	3.2	12.6	5.1	12.0	5.2	10.5	5.1	9.5
Apparel	23.5	16.8	23.2	16.7	22.5	15.6	23.1	15.2
Paper	2.6	8.2	4.1	8.6	6.0	8.6	6.5	8.6
Printing	9.4	12.4	11.5	13.5	12.0	15.5	13.3	17.4
Chemicals	13.1	11.3	12.2	12.9	13.0	13.7	11.7	13.3
Petroleum Refining and Rubber[b]	2.4	8.1	7.3	9.5	11.3	11.4	13.9	12.3
Leather	2.8	5.0	4.1	3.9	3.3	2.9	2.1	2.4

Source: U.S. Department of Labor, Bureau of Labor Statistics, and Kentucky Cabinet for Human Resources, through the Kentucky Economic Information System.

Notes

[a] Because of rounding, amounts do not sum to 100 percent in all cases.

[b] Petroleum Refining and Rubber refers to SIC #s 29 and 30. These are all petroleum refining and related industries, and rubber and miscellaneous plastics products industries.

TABLE 7-B

Wage and Salary Employment Growth, Nine Nondurable Manufacturing Subgroups, Kentucky and United States, 1970-1984

(Index Numbers: 1970 = 100)

Year	Food and Kindred Products	Tobacco	Textiles	Apparel	Paper	Printing	Chemicals	Petroleum Refining and Rubber	Leather
				Kentucky					
1970	100	100	100	100	100	100	100	100	100
1971	97	93	101	100	104	97	95	113	98
1972	93	94	105	113	133	84	86	117	106
1973	91	104	114	113	141	91	91	122	115
1974	89	103	123	110	140	88	94	138	111
1975	89	97	111	97	141	90	97	118	102
1976	91	100	119	103	150	92	109	124	106
1977	93	93	125	104	150	95	113	143	93
1978	89	92	121	101	156	101	115	165	92
1979	89	89	115	102	159	107	115	171	88
1980	88	80	106	101	154	108	111	160	83
1981	85	82	104	98	154	109	108	170	79
1982	84	73	105	95	149	107	99	162	69
1983	81	69	101	96	150	109	93	170	59
1984	77	67	97	98	159	114	94	187	50
				United States					
1970	100	100	100	100	100	100	100	100	100
1971	99	93	98	98	97	98	96	95	94
1972	98	91	101	101	98	99	96	107	93
1973	96	94	104	105	100	101	99	115	89
1974	96	93	99	100	100	101	101	116	85
1975	93	91	89	91	91	98	97	104	78
1976	95	92	94	97	96	100	99	109	82
1977	96	86	93	97	98	103	102	119	80
1978	97	85	92	98	99	108	104	125	80
1979	97	85	91	96	100	112	106	129	77
1980	96	83	87	93	98	113	106	120	73
1981	94	85	84	91	98	115	106	123	74
1982	92	83	77	85	94	115	102	116	68
1983	90	82	76	85	94	118	99	118	64
1984	91	78	77	88	97	124	99	126	60

Source: U.S. Department of Labor, Bureau of Labor Statistics, and Kentucky Cabinet for Human Resources, through the Kentucky Economic Information System.

subgroup was nearly constant in the period 1976 to 1983. The petroleum refining and rubber subgroup, however, grew throughout most of the 15-year period. Comparing 1983 and 1984, increases occurred in five subgroups: apparel (2 percentage points), paper (9 points), printing (5 points), chemicals (1 point), and petroleum refining and rubber (17 points).

For the nation, only two nondurable manufacturing subgroups had employment higher in 1984 than in 1970, with index values of 124 in printing and 126 in petroleum refining and rubber. For the paper, printing, and petroleum refining and rubber subgroups, Kentucky showed gains between 1970 and 1984. National employment declined in the paper subgroup, and showed moderate growth in the petroleum refining and rubber subgroup but had stronger growth than Kentucky in the printing subgroup. Less prominent in the national statistics, in the period between 1970 and 1984, is the increase-and-later-decline pattern found in the Kentucky statistics. Comparing 1983 and 1984, employment increases occurred nationally in six subgroups: food (1 percentage point), textiles (1 point), apparel (3 points), paper (3 points), printing (6 points), and petroleum refining and rubber (8 points). Overall, the Kentucky nondurable manufacturing employment increases between 1983 and 1984 were superior to those of the nation.

Plotted in Figure 7-A are the nine nondurable manufacturing subgroups according to relative importance of employment, in 1984, for Kentucky compared with the nation. Figure 7-B shows, for Kentucky only, employment changes over the years in four subgroups: food, tobacco, paper, and petroleum refining and rubber, contrasting two increasing and two decreasing subgroups. Figure 7-C compares Kentucky and the nation in terms of employment changes in the paper and the petroleum refining and rubber subgroups, highlighting the differences in performance in Kentucky's two fastest growing subgroups.

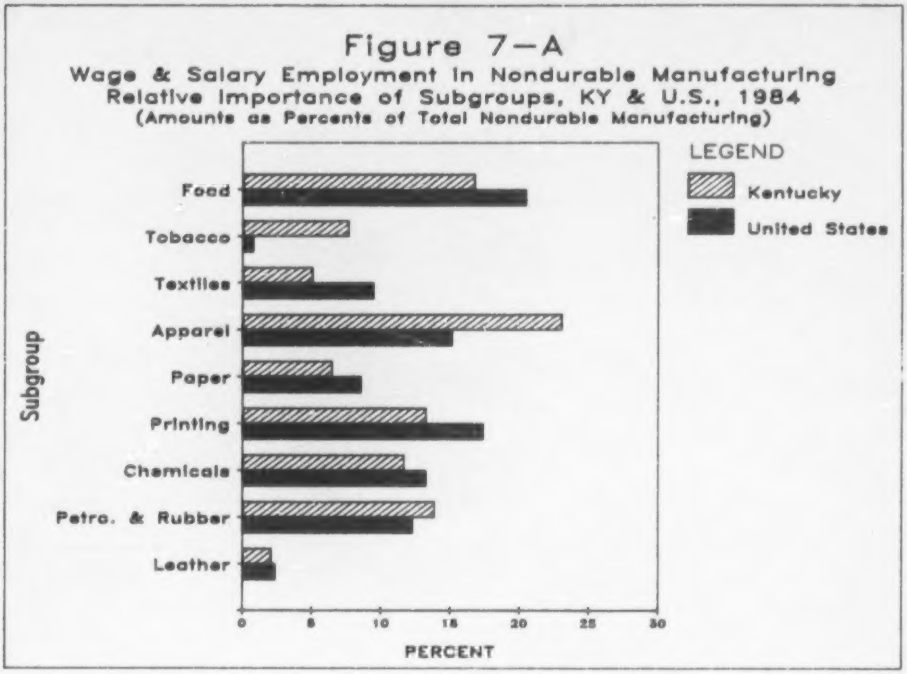


Figure 7—A
Wage & Salary Employment in Nondurable Manufacturing
Relative Importance of Subgroups, KY & U.S., 1984
(Amounts as Percents of Total Nondurable Manufacturing)

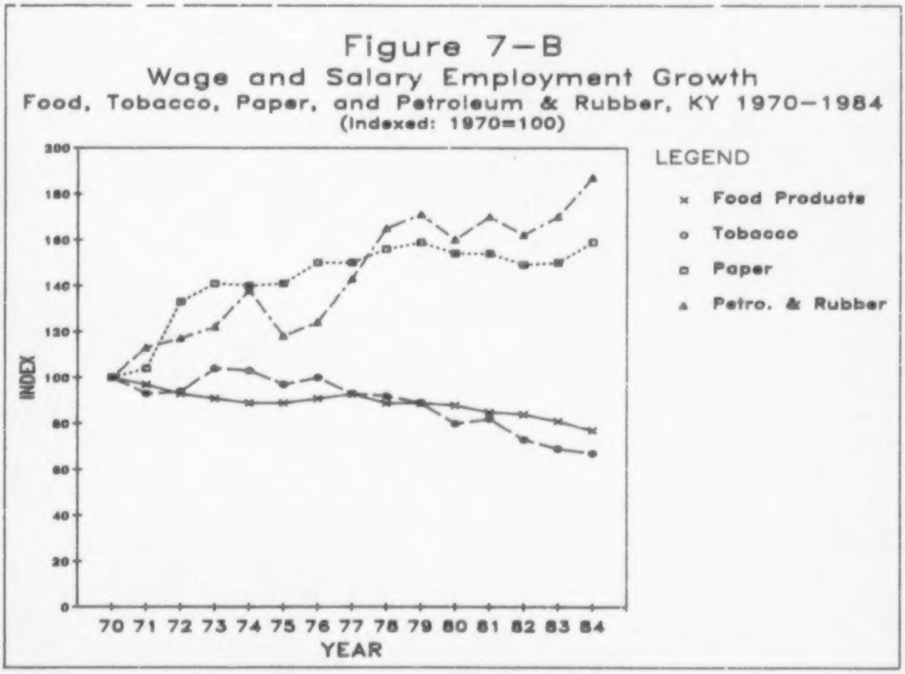


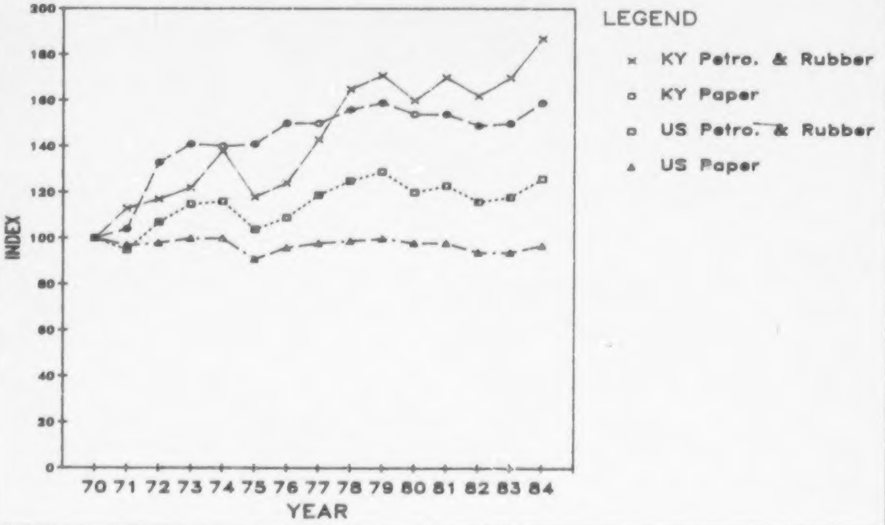
Figure 7—B
Wage and Salary Employment Growth
Food, Tobacco, Paper, and Petroleum & Rubber, KY 1970—1984
(Indexed: 1970=100)

Figure 7–C

Wage and Salary Employment Growth

Paper and Petroleum Refining & Rubber, KY & U.S., 1970–1984

(Indexed: 1970=100)



8. School District Characteristics by County Areas

Education is the largest expenditure category of Kentucky local governments. Selected for study in this section of the report are various economic and educational finance characteristics of Kentucky county areas.[1] School districts are the local governments that provide educational services through grade 12. Each Kentucky county has at least one school district but some have several, resulting in a state total of 180 school districts. For the analysis in this section, all school district statistics and all other data are presented as combined values for entire county areas. Funds expended locally for school purposes come from several sources: debt financing, federal government aid, state government aid, and locally raised revenue mainly from taxation. The analysis in this section omits the debt-financing and federal-aid sources of educational funds and is mainly concerned with the economic and financial characteristics of county areas as these are relevant to local ability to finance educational services.

An important and continuing controversy in educational finance concerns the degree to which the financing of locally provided public educational services should be shared between the state and local governments. The present educational finance system in Kentucky is one of local expenditures very heavily supported by state aid but also supported in varying degrees among localities by locally raised revenue. Especially important factors influencing decisions on state-local sharing of educational costs are, first, the large degree of diversity among Kentucky local areas in economic values and, second, the desire not to have too large a degree of inequality of educational services among localities.

A substantial program of intergovernmental revenue transfers (state aid to local school districts) greatly reduces the degree of inequality of educational service that would result in Kentucky if only locally raised revenues were used. Questions remain, however, as to whether the level of educational services should be increased; what degree of inequality presently exists even with the state aid programs; whether the degree of inequality should be reduced further; whether additional financing should be from state or local funds; and whether local areas would be able reasonably to raise their levels of financial support in view of the low levels of economic values in many localities. The continuing interest in this subject suggests the desirability of comparing Kentucky local governmental areas according to several relevant aspects of educational finance, including various measures of the economic values that, directly or indirectly, influence local ability to collect tax revenue, and also including several aspects of educational expenditure levels.

Each of Kentucky's 180 school districts has both taxing and spending powers for educational purposes. For the analysis that follows, the financial data for this large group of local governmental units is simplified and clarified by making several refinements. First, the data are organized by county areas. For those of Kentucky's 120 county areas that have more than one school district, the data for individual school districts are combined, using appropriate methods. Second, the large differences among county areas in the magnitude of economic values (such as total equalized value of taxable property, or total personal income) are reduced by converting totals into amounts per pupil in average daily attendance (ADA).[2] For example, total equalized value of taxable property is divided by number of pupils in average daily attendance to obtain equalized value of taxable property per ADA pupil. Third, the difficulties of comparing several groups of economic variables (numerical values of economic characteristics) that are differently measured are resolved by expressing amounts for particular county areas as percentages of state average amounts. By this adjustment, the state average for each of several economic variables is 100 percent, and the values for the particular county areas vary above and below 100 percent. The actual dollar value for the state average for each of these variables is given in Table 8-A.

There remains the question of how to organize and present the data for 120 county areas when each is measured according to as many as nine economic variables. One method is to arrange the county areas alphabetically and show the related values for each variable; but particular county areas

TABLE 8-A
Kentucky State-Level Values for Variables
Related to Educational Finance, 1982-1983

Equalized Value of Taxable Property, as of January 1, 1983, per pupil in average daily attendance	$115,896.0
Personal Income, by place of residence, per pupil in average daily attendance, 1983	61,907.3
Labor Earnings, by place of work, per pupil in average daily attendance, 1983	34,293.1
Sales Tax Revenue, by place of business, per pupil in average daily attendance, 1983	1,213.3
Individual Income Tax Revenue, by place of residence, per pupil in average daily attendance, 1983	1,118.1
Personal Income, by place of residence, per capita, 1983	9,396.0
Labor Earnings, by place of work, per job, 1982	14,840.0
Average Beginning Teacher's Salary, School Year 1982-1983	12,715.0
Average Teacher's Salary, All Classroom Teachers, School Year 1982-1983	18,384.0

Sources and Notes: See Text Notes, Section 8.

would not consistently occupy the same high or low position according to each economic variable. Another method is to array the values from high to low for each variable; but the 120 county areas would not likely be in the same order, from high to low, for each of the economic variables. Consequently, one possible arrangement would allow easy location of counties by alphabetical sequence but not easy identification according to high or low relative values; the other possible arrangement would allow easy identification of high or low relative values but not easy location according to alphabetical sequence. The method selected is a compromise. All of the county area data are presented in an Appendix Table, with county areas arranged alphabetically, showing both the values (as percents of state averages) and the ranks.[3] Analysis of the data, however, relies heavily on the values as arrayed from high to low. But instead of presenting the arrayed data in additional appendix tables, only selected parts of the arrayed data are presented and analyzed in the text and accompanying text tables.

The analysis of educational finance characteristics by county areas is in two parts. The first part compares the 120 county areas according to five economic characteristics: equalized value of taxable property;[4] personal income by place of residence;[5] labor earnings (all wage and salary workers) by place of work;[6] state government collections of sales tax revenue, by place of business;[7] and state government collections of individual income tax revenue, by place of residence.[8] All five characteristics are measured as amounts per ADA pupil—that is, total value divided by number of pupils in average daily attendance. (This adjustment suggests the economic values potentially available to produce tax revenue in amounts per ADA pupil; many aspects of the Kentucky Minimum Foundation and Power Equalization programs of state aid to local school districts are measured as amounts per ADA pupil.) In addition, personal income is also measured as amounts per capita,[9] thereby creating six economic variables. All values for each of the six variables are presented as percentages of state averages. Of interest is how county areas differ according to a particular economic variable and also how the patterns of intercounty differences vary among the six economic variables.

The second part of the analysis compares the 120 county areas according to one economic characteristic (labor earnings per job, by place of work)[10] and two measures of teachers' salaries: beginning teachers with only the four-year college degree,[11] and average salaries of all teachers.[12] These three variables are *not* measured according to amounts per ADA pupil. But like the six other variables, all values in these three variables are presented as percentages of state averages. Of interest are differences among county areas in the relative attractiveness of teachers' salaries. That is, do teachers' salaries appear to be high or low when compared with labor earnings generally, and how do these patterns of differences vary among county areas?

Before analyzing the individual tables, several reminders are in order. First, state average amounts for the nine economic series are presented in Table 8-A. By multiplying state average amounts by the percentage values for a particular county, actual dollar amounts can be approximated for the county. Second, widely differing results would be obtained if the same economic total is divided alternatively by total number of residents, number of workers, and number of ADA pupils. A substantial part of a county's population does not work, being either not in the labor force (students, elderly, full-time homemakers, etc.) or unemployed (not working, but looking for work); the distribution of employment among counties is affected by workers commuting into and out of a county; and the number of ADA pupils is affected by the age distribution of a county's population, the percentage of school-age children who are enrolled in school, and the percentage of enrolled pupils who actually attend classes. For the nine economic variables in the Appendix Table, all of these factors influence the patterns of differences among counties and among variables. Third, the original totals for the first five economic variables in the Appendix Table were converted to amounts per ADA pupil; the original totals for the sixth variable were converted to amounts per capita; and, the last three variables are average amounts per worker in each county, with the teachers' salaries being an average of district levels, by counties. (The beginning teachers' salaries are an unweighted average of the minimum Rank III teachers' salaries in counties of more than one school district.) Note that teachers' earnings are part of labor earnings (see last three variables). Note also that the total labor earnings data appear twice—as amounts per ADA pupil and as amounts per worker, and the total personal income data also appear twice—as amounts per ADA pupil and as amounts per capita. Fourth, unmined minerals are one of several classes of property not subject to local school property taxation in Kentucky.

Tables 8-B, 8-C, and 8-D compare the five per ADA pupil economic variables for three groups of 20 counties each. (Also included is the per capita personal income variable, which is discussed last.) These county groups are the highest, middle, and lowest 20 counties as measured by the equalized value of taxable property per ADA pupil. Very large differences are shown between the highest and lowest groups of counties. Comparing the extremes, the values for Fayette County (rank 1 according to property) divided by values for McCreary County (rank 120) give multiples as follows for the five per ADA pupil series: 6.8 for property; 4.6 for personal income; 10.3 for labor earnings; 9.4 for sales tax; and 5.7 for income tax. Even within the highest 20 counties (Table 8-B), the values for Fayette County divided by the values for Boyd County (rank 20) give the following multiples: 1.8 for property; 1.5 for personal income; 1.5 for labor earnings; 1.5 for sales tax; and 1.4 for income tax. These comparisons indicate the large degrees of intercounty inequality in the economic values potentially available to pro-

TABLE 8-B

Highest Property Value Counties Compared on Selected Economic Indicators, 1983

	Per Pupil in Average Daily Attendance										Per Capita	
County	Taxable Property		Personal Income		Labor Earnings		Sales Tax		Income Tax		Personal Income	
	(Amounts as Percentages of State Average)											
	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank
Fayette	192.6	1	170.0	1	210.9	2	244.6	1	168.7	2	142.4	3
Jefferson	167.2	2	169.4	2	210.9	3	179.5	2	179.9	1	130.2	4
Woodford	156.7	3	135.4	3	91.4	24	84.5	32	113.9	10	152.4	1
Boone	144.4	4	106.0	14	111.7	14	163.6	4	113.2	11	113.9	9
Carroll	135.8	5	85.1	41	100.2	19	89.0	30	75.0	54	97.9	27
Daviess	135.6	6	128.6	6	123.0	10	144.1	6	145.4	3	113.9	9
Mason	128.6	7	96.0	22	112.7	11	129.7	8	83.0	37	98.6	26
Lyon	125.5	8	99.7	18	54.3	57	73.1	43	87.3	33	79.2	67
Henderson	125.5	9	102.5	17	104.9	16	109.5	11	120.5	8	110.1	13
Franklin	124.7	10	126.4	7	170.5	5	98.9	18	129.3	6	127.2	5
Nelson	123.5	11	90.4	29	58.5	51	67.7	50	92.1	26	90.9	40
Hancock	111.2	12	86.6	35	202.0	4	106.5	13	97.1	18	105.6	17
Calloway	109.6	13	106.1	13	82.0	29	106.1	14	95.5	20	90.7	41
Union	109.3	14	106.7	11	160.3	6	112.1	9	108.3	14	101.8	21
Shelby	108.0	15	95.2	24	55.9	55	68.2	49	90.2	28	104.4	19
Clark	107.4	16	98.6	21	93.1	22	109.0	12	102.6	16	109.4	14
Kenton	107.2	17	131.1	5	82.7	28	91.2	22	138.8	4	111.7	12
Warren	107.0	18	99.3	20	112.2	13	137.3	7	103.9	15	86.1	47
Garrard	106.5	19	85.8	39	39.4	75	44.2	76	78.8	47	82.3	61
Boyd	105.3	20	110.3	10	136.4	8	161.2	5	119.3	9	113.2	11

Sources and Notes: See Text Notes, Section 8.

duce tax revenue per ADA pupil if school districts were to raise additional tax revenue locally. This is not to imply that the four variables other than the taxable property variable accurately reflect the values potentially taxable, for school purposes, because the earnings and spending of nonresidents directly influence the labor earnings and the sales tax variables, and because such nonresident values might be legally exempted from school taxation. But these five variables constitute important measures of county economic activity, and their values differ widely among counties.

Another important aspect of the economic variables presented in Tables 8-B, 8-C, and 8-D are the widely differing positions of particular counties when measured by different economic variables. For example, it is possible to find counties in the group of 20 lowest, according to property, that have much higher values according to one or more of the other variables; and it is possible to find counties among the highest 20 according to property that have much lower values according to one or more of the other variables. For example, Whitley County (Table 8-D) is 49.6 percent of the state average according to the taxable property variable but is 104.4 percent according to the sales tax variable and 71.6 percent according to the personal income variable, all per ADA pupil. Carroll County (Table 8-B) is 135.8 percent of the state average in the taxable property variable but only 85.1 percent

TABLE 8-C

Middle Range Property Value Counties Compared on Selected Economic Indicators, 1983

	Per Pupil in Average Daily Attendance										Per Capita	
County	Taxable Property		Personal Income		Labor Earnings		Sales Tax		Income Tax		Personal Income	
	(Amounts as Percentages of State Average)											
	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank
Owen	86.6	51	68.1	73	32.4	90	33.6	101	55.7	85	71.0	85
Martin	86.4	52	63.7	83	112.3	12	70.9	44	80.6	43	83.0	58
Pulaski	86.1	53	73.6	61	71.8	36	90.4	24	68.3	64	81.5	62
Scott	85.7	54	99.7	19	66.6	41	62.2	53	92.3	25	105.8	16
Taylor	84.5	55	85.2	40	97.9	20	89.6	28	80.3	44	86.5	46
Greenup	83.9	56	80.5	48	88.7	25	59.0	58	82.0	41	97.2	28
Gallatin	82.6	57	67.6	74	33.0	88	37.9	94	59.9	79	79.2	68
Larue	82.1	58	76.7	56	31.0	100	39.1	91	72.8	57	83.6	54
Barren	81.7	59	77.7	53	83.9	27	89.3	29	76.9	51	85.7	49
Carlisle	81.0	60	78.1	52	27.8	105	36.6	96	78.5	48	79.4	65
Caldwell	79.4	61	89.1	32	65.7	43	86.9	31	82.0	40	94.7	35
Nicholas	77.5	62	71.9	64	40.2	72	38.9	92	68.2	65	76.5	74
Ballard	77.1	63	88.6	33	79.5	30	100.4	17	82.0	39	99.5	25
Montgomery	76.1	64	70.4	68	63.8	46	78.6	37	66.0	72	84.8	51
Marion	75.7	65	65.1	79	39.1	77	46.5	69	64.3	74	66.0	96
Bracken	74.1	66	74.9	58	30.0	102	30.7	104	59.5	81	82.5	60
Green	73.9	67	74.7	59	39.9	73	47.5	68	59.8	80	73.3	79
Allen	73.1	68	81.5	47	58.8	50	49.0	65	80.0	46	83.4	57
Rowan	72.6	69	72.6	63	72.2	34	89.8	27	65.3	73	74.7	77
Christian	72.5	70	106.5	12	212.3	1	91.0	23	77.8	50	93.8	37

Sources and Notes: See Text Notes, Section 8.

in the personal income variable and 75 percent in the income tax variable, all per ADA pupil. Garrard County (Table 8-B) is 106.5 percent of the state average in the taxable property variable but only 39.4 percent in the labor earnings variable and 44.2 percent in the sales tax variable, all per ADA pupil.

There are many possible reasons why the relative position of a particular county (measured as a percentage of the state average) may vary among the different variables. The most important reasons are intercounty commuting for working and for shopping, and the differences among variables as to whether measured according to place of residence or place of business (for working and for shopping). The property, personal income, and income tax variables are measured according to where the property is located or the person resides, whereas the labor earnings and sales tax variables are measured according to where the business is located. For example, a person might reside in county X, work in county Y, and shop in county Z. Consequently, his contributions to the personal income and income tax variables, and partly to the taxable property variable (because of his residence), would be related to county X; his contributions to the labor earnings variable would be related to county Y; and his contribution to the sales tax variable would be related to county Z. Also, there are intercounty dif-

TABLE 8-D

Lowest Property Value Counties Compared on Selected Economic Indicators, 1983

	Per Pupil in Average Daily Attendance										Per Capita	
County	Taxable Property		Personal Income		Labor Earnings		Sales Tax		Income Tax		Personal Income	
	(Amounts as Percentages of State Average)											
	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank
Whitley	49.6	101	71.6	65	57.1	54	104.4	15	55.2	86	83.8	53
Morgan	49.4	102	50.0	109	39.0	78	39.2	90	40.7	108	58.0	109
Carter	49.2	103	54.4	102	31.1	99	44.1	77	46.3	98	66.4	93
Estill	49.2	104	58.5	94	30.8	101	38.9	93	52.0	89	73.3	79
Clinton	46.8	105	49.5	110	39.3	76	44.7	74	36.0	114	53.0	115
Lewis	46.2	106	47.9	111	23.3	108	23.2	115	35.5	115	57.1	111
Powell	45.0	107	53.2	105	28.3	104	43.5	81	48.4	94	66.2	95
Knox	45.0	108	57.3	97	39.5	74	54.7	62	46.2	99	61.9	103
Menifee	45.0	109	43.2	118	15.4	118	41.6	83	34.9	116	50.1	118
Lee	43.8	110	52.2	107	35.7	84	44.3	75	44.7	103	59.0	107
Letcher	42.4	111	60.9	91	35.4	86	55.9	61	49.9	93	71.2	83
Wayne	39.1	112	50.3	108	33.9	87	43.1	82	37.7	112	59.7	106
Owsley	38.8	113	43.0	119	14.9	119	16.6	120	27.8	119	43.9	120
Elliott	38.5	114	43.5	116	14.1	120	18.0	118	25.5	120	50.7	117
Knott	36.4	115	54.1	103	36.8	83	39.7	89	46.4	97	65.2	100
Magoffin	35.1	116	46.9	112	31.8	93	33.2	102	38.4	111	60.0	105
Jackson	34.2	117	44.0	115	20.8	112	22.0	117	33.3	117	50.9	116
Wolfe	32.9	118	45.3	114	28.5	103	22.4	116	38.6	110	53.4	114
Clay	32.0	119	55.8	100	53.8	58	45.4	72	42.6	105	68.4	89
McCreary	28.5	120	37.0	120	20.5	113	26.0	111	29.6	118	48.3	119

Sources and Notes: See Text Notes, Section 8.

ferences in the relative importance of the several sources of personal income (wage and salary earnings of employees; proprietors' income; property income from dividends, interest, and rent; and transfer payments). Counties that border a major urban county tend to differ greatly in the percentage values shown for the personal income and the labor earnings variables because of worker commuting to the urban county. Insofar as much shopping is done in the major urban county, the sales tax variable is diminished for the border county but exaggerated for the major urban county. These patterns can be seen in Table 8-B for Woodford, Shelby, Lyon, and Nelson Counties, for example.

Of special interest in Tables 8-B, 8-C, and 8-D are the differences between the two personal income variables (per ADA pupil, and per capita) when comparisons are made for a particular county according to these two variables and also when the differences between the two variables are compared among counties. Some striking differences result when, for selected counties, the percentage of state average for per capita personal income is subtracted from the per ADA pupil personal income percentage. Nine selected counties, as compared in Table 8-E, show considerable variation both in amount and direction of differences between the two personal income variables.

TABLE 8-E
Comparison of Personal Income Per ADA and Per Capita for Selected Kentucky Counties, 1983

County	Personal Income Per ADA Pupil	Personal Income Per Capita	Difference (ADA -PC)
	(Amounts as Percentages of State Averages)		
Jefferson	169.4	130.2	+ 39.2
Fayette	170.0	142.4	+ 27.6
Lyon	99.7	79.2	+ 20.5
Nelson	90.4	90.9	− 0.5
Franklin	126.4	127.2	− 0.8
Carlisle	78.1	79.4	− 1.3
Woodford	135.4	152.4	− 17.0
Hancock	86.6	105.6	− 19.0
Martin	63.7	83.0	− 19.3

Source: Taken from Tables 8-B, 8-C, and 8-D.

The main cause of these differences is that the per capita measure divides total personal income by the entire county population whereas the per ADA pupil measure divides the same total personal income by the average number of pupils attending school. Major differences are found among counties not only in the percentage of population of school age but also in the percentage of school age population enrolled in school and, in addition, actually attending school. Two counties might be identical in total personal income and total population, but county A might be high in percentage of school age population, or in school attendance, while county B might be low in percentage of school age population or in school attendance. The result would be that, while the counties would be identical in per capita personal income, county A would be lower than county B in personal income per ADA pupil because of county A's higher number of ADA pupils. A local tax for school purposes, if it related to income and if it produced the same total tax yield in each county, would nevertheless yield fewer dollars *per ADA pupil* in county A than in county B because of county A's larger number of pupils.

A similar intercounty comparison could be made between the two labor earnings variables. The same total of earnings of wage and salary workers is converted to amounts per ADA pupil in one variable (Tables 8-B, 8-C, and 8-D) and to amounts per worker in the other variable (Tables 8-F, 8-G, and 8-H). Patterns of differences among counties would vary according to which of the two variables was viewed, for the reasons described above.

In view of the widely varying patterns of differences among county areas shown by the six economic variables examined in Tables 8-B, 8-C, and 8-D, it is well to remember that a comparison based on a single economic measure is not likely to give an accurate picture of intercounty economic differences. Considering the small areas of Kentucky counties, the large degree of intercounty commuting for working and shopping, and the differences between economic variables according to whether measured by place of residence or place of business, it is safe to conclude that intercounty differences cannot adequately be measured if based on a single measure of economic characteristics or activity.

Tables 8-F, 8-G, and 8-H compare three groups of 20 counties each according to three economic variables related to labor earnings. The groups of counties selected are the 20 highest, 20 middle, and 20 lowest counties as measured according to average labor earnings per job. Values are also shown for two measures of teachers' salaries—beginning salaries for first year teachers with only the 4-year college degree, and the average of salaries for all teachers. In two of the variables, total earnings of the group are divided by the number of workers in the group to obtain average earnings of workers generally and of teachers. No per worker averages were computed for beginning teachers' salaries because all such teachers in a particular school district receive the same salary. As in the previous tables, all values are shown as percentages of the state average amounts (previously presented in Table 8-A). Note that the individual counties in the three groups are not necessarily the same 60 counties previously selected. The counties in the first group of three

TABLE 8-F

Average Labor Earnings and Teachers' Salaries:
Highest Ranked Counties by Average Earnings, 1982

County	Labor Earnings Per Job		Teachers' Salaries			
			Beginning		Average	
	(Amounts as Percentages of State Average)					
	%	Rank	%	Rank	%	Rank
Martin	193.2	1	100.3	42	88.9	119
Hancock	165.4	2	105.4	2	108.4	3
Greenup	144.4	3	104.5	5	101.3	14
Breathitt	129.2	4	100.3	42	94.9	71
Union	127.9	5	104.2	6	100.0	18
Muhlenberg	126.1	6	104.1	7	98.7	27
Pike	123.2	7	103.3	8	95.7	61
Perry	122.6	8	100.4	40	90.5	117
Marshall	121.4	9	100.7	30	98.1	31
Boyd	121.2	10	103.0	12	101.8	11
Harlan	120.6	11	100.5	39	94.7	75
Clay	113.3	12	100.0	58	96.0	53
Webster	112.7	13	99.6	75	94.8	73
Jefferson	112.6	14	102.7	13	108.7	1
Magoffin	112.4	15	100.3	42	95.1	69
Carroll	111.2	16	96.0	117	93.2	99
Ballard	111.0	17	95.1	120	98.1	32
Hopkins	109.7	18	100.6	34	96.8	43
Knott	108.9	19	100.0	57	91.9	109
Floyd	107.4	20	99.9	61	94.0	84

Sources and Notes: See Text Notes, Section 8.

tables were selected from an array of counties according to equalized property values while the counties in this second group of three tables were selected from an array of counties according to labor earnings per job.

The first of several interesting comparisons of the three earnings variables can be made in terms of the state average amounts shown in Table 8-A. Statewide, beginning teachers (4-year college degree but no experience) had average earnings of only $12,715, which was $2,125 below (and therefore only 86 percent of) the state average for all jobs of $14,840. Most of the state's workers do not have 4-year college degrees. The state average of all teachers' salaries was $5,699 above the state average for beginning teachers, but the average salary of all teachers was only $3,544 (24 percent) more than the state average earnings for all jobs. Thus, the additional experience and educational attainment caused the average salaries of all teachers to be only 24 percent higher than the average of all workers' earnings, on a statewide basis. For beginning teachers, the average salary was 14 percent below the state average of all workers' earnings.

What is especially striking about the three labor earnings variables compared in Tables 8-F, 8-G, and 8-H are: the small range for beginning teachers

TABLE 8-G

Average Labor Earnings and Teachers' Salaries: Middle Ranked Counties by Average Earnings, 1982

County	Labor Earnings Per Job		Teachers' Salaries Beginning		Teachers' Salaries Average	
	(Amounts as Percentages of State Average)					
	%	Rank	%	Rank	%	Rank
Barren	84.3	51	100.7	33	99.5	20
Rowan	84.1	52	98.4	98	97.6	38
Nelson	83.9	53	103.1	10	103.1	7
McCreary	83.1	54	97.7	106	90.8	114
Lee	82.8	55	103.0	11	93.4	96
Harrison	82.6	56	97.0	110	94.1	83
Knox	82.6	57	99.3	85	93.2	99
Carter	81.9	58	96.0	116	93.4	95
Trimble	81.9	59	95.6	119	93.6	93
Pendleton	81.6	60	100.8	27	94.2	81
Bullitt	81.5	61	101.5	23	97.5	39
Madison	81.3	62	99.5	78	97.9	36
Pulaski	81.1	63	99.9	59	90.8	115
Caldwell	80.3	64	100.3	42	95.5	64
Oldham	80.2	65	98.4	97	95.9	56
McLean	79.3	66	100.3	42	93.8	90
Calloway	78.5	67	99.5	78	98.9	25
Taylor	78.1	68	100.6	35	99.4	21
Morgan	77.8	69	99.1	87	96.0	54
Mercer	77.0	70	100.7	30	93.8	87

Sources and Notes: See Text Notes, Section 8.

TABLE 8-H

Average Labor Earnings and Teachers' Salaries: Lowest Ranked Counties by Average Earnings, 1982

County	Labor Earnings Per Job		Teachers' Salaries Beginning		Teachers' Salaries Average	
	(Amounts as Percentages of State Average)					
	%	Rank	%	Rank	%	Rank
Fleming	65.9	101	98.7	93	96.5	49
Henry	65.9	102	99.5	78	93.0	101
Lewis	64.7	103	98.7	93	96.7	46
Nicholas	64.6	104	97.2	109	93.2	98
Marion	64.6	105	102.2	14	96.7	47
Rockcastle	63.9	106	100.3	42	95.6	62
Washingtor	63.8	107	100.2	53	95.9	55
Wayne	63.2	108	100.5	38	97.1	40
Garrard	63.2	109	102.0	17	93.8	89
Larue	61.9	110	102.0	16	102.6	9
Carlisle	61.4	111	99.9	61	94.1	82
Bath	61.3	112	99.7	73	93.2	97
Russell	61.3	113	99.6	76	96.9	42
Casey	61.2	114	100.5	36	92.4	105
Todd	60.8	115	99.5	82	93.8	88
Monroe	60.2	116	99.7	73	95.8	59
Cumberland	58.5	117	99.7	72	95.8	58
Clinton	58.2	118	100.2	53	98.5	29
Robertson	57.6	119	99.5	83	98.9	24
Metcalfe	54.4	120	100.3	42	98.0	34

Sources and Notes: See Text Notes, Section 8.

(from 105.4 percent of the state average in Hancock County to 95.6 percent in Trimble County); the slightly larger range for average teachers' salaries (from 108.7 percent of the state average in Jefferson County to 88.9 percent in Martin County); and the substantial range for all labor earnings per job (from 193.2 percent of the state average in Martin County to 54.4 percent in Metcalf County). The extremes of differences among the 60 counties shown in the three tables are: 9.8 percentage points for beginning teachers' salaries; 19.8 points for average teachers' salaries, and 138.8 points for average labor earnings. Average labor earnings differ widely even between the lowest of the top 20 counties in Table 8-F (Floyd County at 107.4 percent of the state average) and the highest of the lowest 20 counties in Table 8-H (Fleming County at 65.9 percent).

The small ranges among counties for teachers' salaries, both beginning and average, are undoubtedly influenced by state regulations concerning educational finance. In contrast, the large range among counties in average earnings for all jobs reflects the average earnings differences among major industry groups and the relative importance of these industry groups both statewide and among county areas (see Table 2-C for average earnings by industry groups, and Table 4-A for the distribution of employment and earnings among industry groups).

The practical effect of these differences in ranges is that teachers' salaries, both beginning and average, appear low relative to other earnings in counties with high average earnings, and appear high relative to other earnings in counties with low average earnings. Using approximate dollar amounts, the average salaries for beginning teachers and all teachers, and the average earnings for all jobs, are compared in Table 8-I for the highest, middle, and lowest counties (according to average earnings for all jobs), as well as for the state's largest school population county (Jefferson) and the Power Equalization benchmark county (Fayette). The comparisons show that the relative attractiveness of teaching (based on an earnings basis) varies widely among Kentucky's 120 counties when compared with jobs generally.

TABLE 8-I
Comparison of Average Earnings of All Workers and of Teachers
Selected Kentucky Counties, 1982

County	Labor Earnings Per Job	Teachers' Salaries Average	Teachers' Salaries Beginning
Martin	$28,670	$16,340	$12,750
Pendleton	12,100	17,320	12,820
Metcalfe	8,070	18,000	12,750
Jefferson	16,710	19,980	13,060
Fayette	15,500	19,870	13,850

Source: Taken from Tables 8-F, 8-G, and 8-H.

Within particular counties, large variations are found when measured according to the three average earnings variables. Martin County (Table 8-F) is especially striking: its average labor earnings were 193.2 percent of the state average while its average teachers' salaries were only 88.9 percent. Similar patterns are found in Perry and Knott Counties. In contrast, Hancock County was only moderately below Martin County in average labor earnings but was nearly at the top (rank 3) of the state's counties in average teachers' salaries (108.4 percent of the state average). Jefferson County (Table 8-F) was the state's highest in average teachers' salaries but only 14th in average earnings generally. Also of interest is Nelson County (Table 8-G), with average labor earnings of only 83.9 percent of the state average but average teachers' salaries of 103.1 percent. A similar pattern is found in Larue County (Table 8-H). Casey County (Table 8-H) is very low both in average earnings generally (61.2 percent of the state average) and average teachers' salaries (92.4 percent).

The following charts illustrate several of the interesting relationships found among the nine economic variables for county areas as they relate to educational finance. Figure 8-A selects the highest (Fayette County) and the lowest (McCreary County) according to equalized property values per ADA pupil and illustrates the five per ADA pupil variables as they differ between the two counties. Figure 8-B compares the five per ADA pupil variables for five selected counties, illustrating the wide differences in patterns of values among variables and among counties. Figure 8-C uses the same variables and counties as in Figure 8-B but reverses the order of the comparisons. Figure 8-D compares nine selected counties according to personal income (per ADA pupil, and per capita), illustrating not only differences among counties but also the different patterns of variation according to the two versions of the personal income variable. Figure 8-E compares average earnings for all jobs, of all teachers, and of beginning teachers, using approximate dollar amounts for the state's highest, middle, and lowest counties (Martin, Pendleton, and Metcalf, respectively) according to average earnings for all jobs. Highlighted are the much wider differences among counties in average earnings per job than in teachers' salaries. Figure 8-F uses the same amounts and counties as in Figure 8-E but reverses the order of the comparisons.

Figure 8—A

Comparison of Fayette and McCreary Counties on Five Economic Variables (Calculated per Pupil, ADA), 1983

(Amounts as Percentages of State Average)

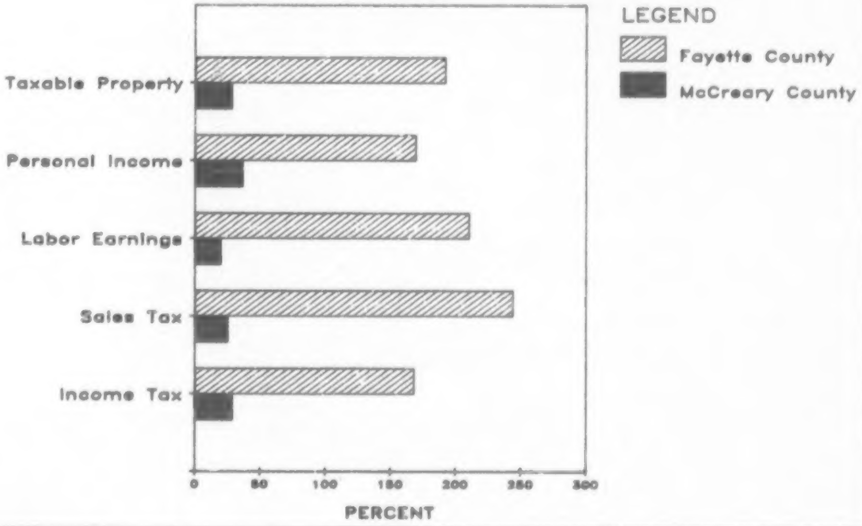


Figure 8—B

Comparison of Five Selected Counties on Five Economic Variables (Calculated per Pupil, ADA), 1983
(Amounts as Percentages of State Average)

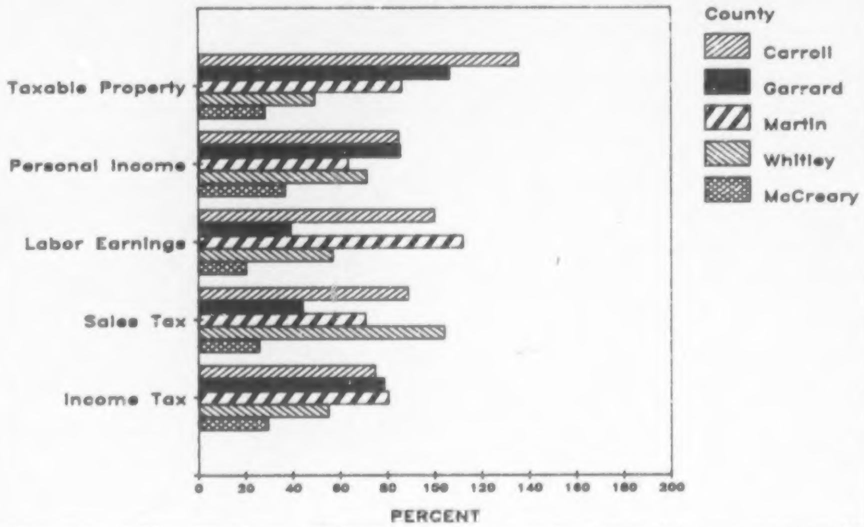


Figure 8—C

Comparison of Five Economic Variables (calculated per Pupil, ADA) for Selected Counties, 1983
(Amounts as Percentages of State Average)

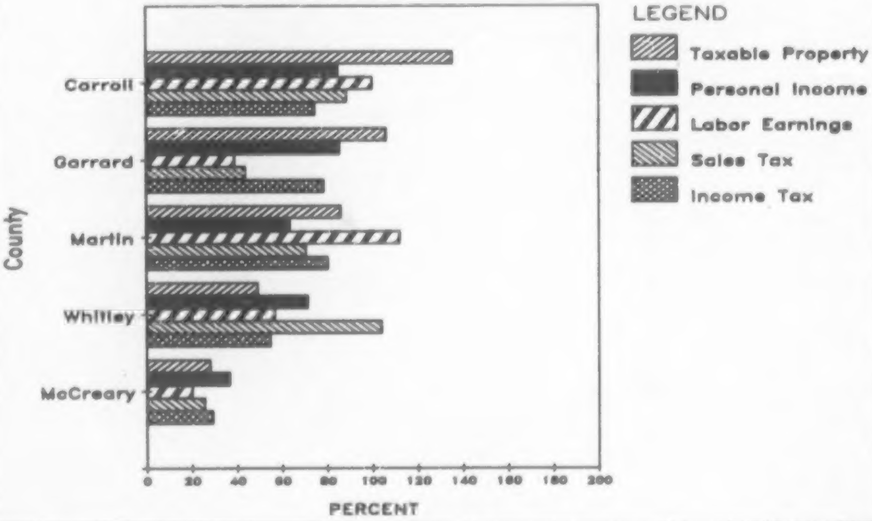
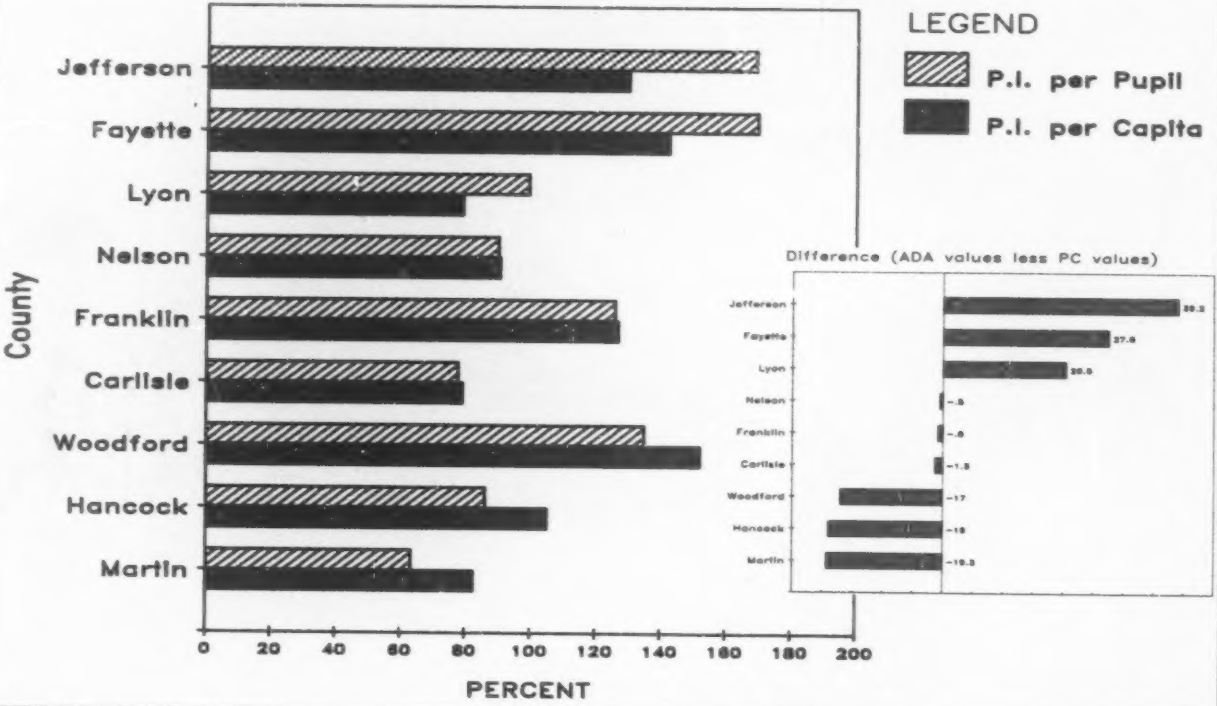


Figure 8–D

Personal Income per Pupil (ADA) and per Capita for Selected Counties, 1983

(Amounts as Percentages of State Average)



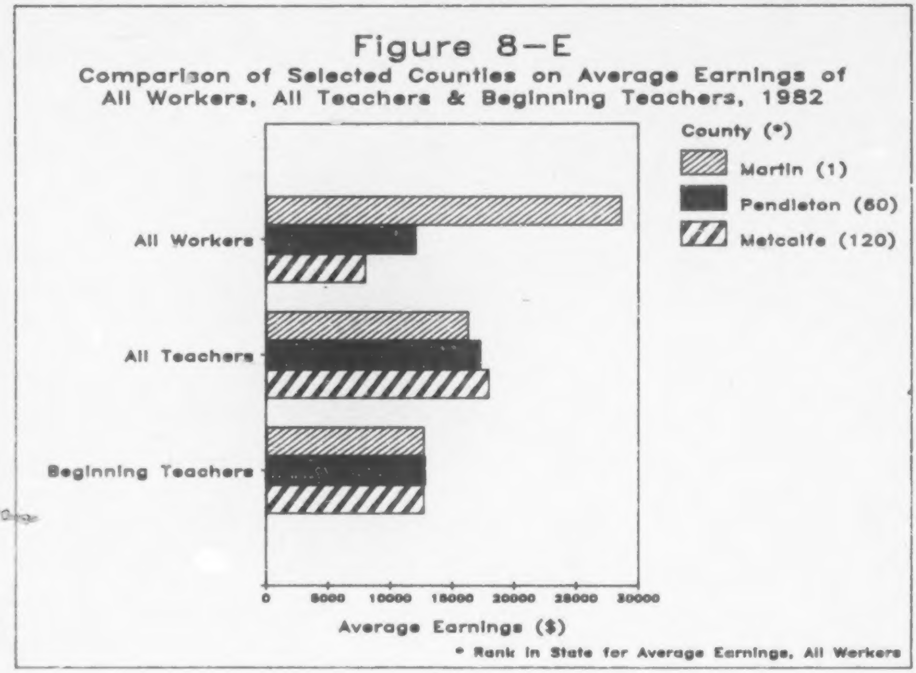


Figure 8—E
Comparison of Selected Counties on Average Earnings of All Workers, All Teachers & Beginning Teachers, 1982

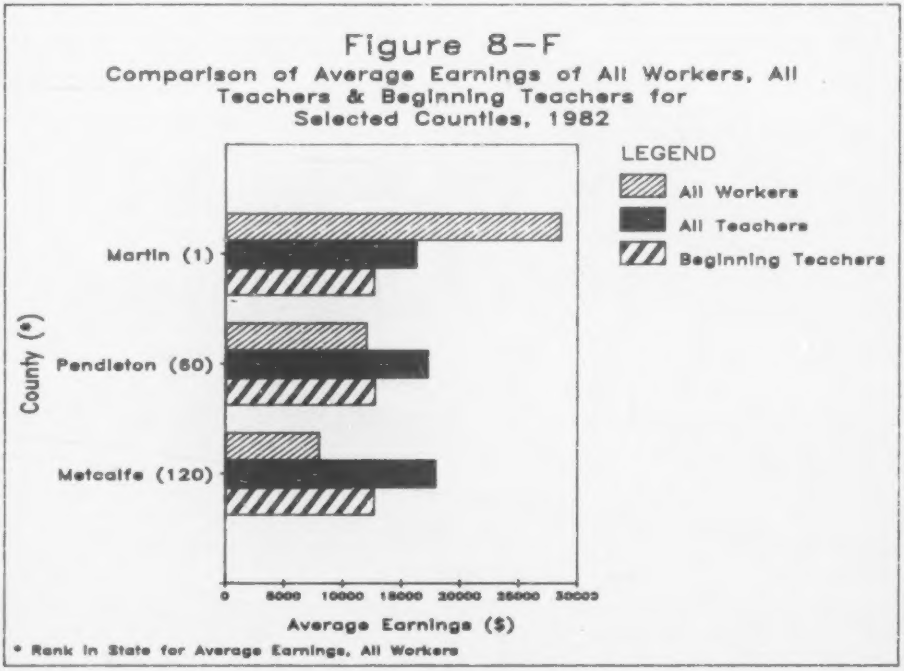


Figure 8—F
Comparison of Average Earnings of All Workers, All Teachers & Beginning Teachers for Selected Counties, 1982

NOTES

[1] Each of Kentucky's 120 counties has a county-level school district. In addition, some counties include independent school districts, making a total of 180 local school districts in Kentucky. All independent school districts are within the boundaries of a single county. Since most economic statistics are available only at the county-level, and not at the school district-level, data for independent school districts have been summed (or averaged, as appropriate) with data for county-level school districts to create educational finance variables that are county-based. The variables for which this transformation was performed are the measures for Pupils in Average Daily Attendance, Taxable Property (Estimated Full Value of Property Subject to Local School Taxes—the "equalized assessment subject to full local rates"), Beginning Teachers' Salaries and Average Teachers' Salaries. All other variables are county-based when issued by their respective source.

[2] The number of Pupils in Average Daily Attendance is for school year 1983-84 and comes from the Kentucky Department of Education, *Kentucky School Enrollment, FY 1983-84*, Table II, "Reported Average Daily Attendance by District for 1979-80 through 1983-84 with the Difference and the Percent of Difference (1983-84 Compared to 1979-80)," pp. 12-17. These figures do not include kindergarten attendance.

[3] In all the tables in Section 8, the county-level values are shown as percentages of the state average, carried to one place to the right of the decimal. This degree of statistical accuracy results in several counties having the same value for some variables, yet a differing rank is given. In the case of identity of values with accuracy at one-tenth of a percent, the rank was determined by carrying the calculation to two places to the right of the decimal. If at that point there was still identity in the values, the two (or more) counties were given the same rank.

[4] Equalized Value of Taxable Property is the Equalized Assessment [of property] Subject to Full Local Rates as of January 1, 1983. These data are prepared by the Department of Property Taxation, Kentucky Revenue Cabinet, in accordance with KRS 157.550 and forwarded annually to the Kentucky Department of Education to be used in the determination of the amount of State Power Equalization support for each of the State's 180 school districts. The unpublished table of school district-level data was received from the Kentucky Department of Education.

[5] Personal Income by place of residence is estimated annually for counties by the Bureau of Economic Analysis, U.S. Department of Commerce. Data used in Section 8 are for calendar year 1983, the most recent period of data availability. For a full definition of Personal Income, see the Glossary at the end of Part I of this report.

[6] Labor Earnings by place of work are a component of Personal Income and are estimated annually for counties by the Bureau of Economic Analysis, U.S. Department of Commerce. As with Personal Income, these data are for 1983; labor earnings are identical to total wages and salaries. This component of Personal Income is fully defined in the Glossary to Part I of this report. By definition, all earnings (or losses) of proprietors are excluded from this measure.

[7] State Government Collections of Sales Tax Revenue by place of business come from Kentucky Revenue Cabinet, *1983/84 Annual Report*, Table IV, "Sales and Use Tax, By County and Other States, Calendar Year 1983," p. A-10.

[8] State Government Collections of Individual Income Tax Revenue, by place of residence come from Kentucky Revenue Cabinet, *1983/84 Annual Report*, Table XIII, "Individual Income Tax, Resident, by County, Selected Information, Tax Year 1983," pp. A-32 to A-35.

[9] County-level Per Capita Personal Income is all Personal Income by place of residence for the county in one year, divided by the total resident population of the county in that year. These data are estimated annually for counties by the Bureau of Economic Analysis, U.S. Department of Commerce. The data used here are for 1983.

[10] Labor Earnings Per Job is constructed from county-level total labor earnings for a given year divided by total number of wage and salary jobs estimated for the county in the same year. The source for both sets of estimates is the Bureau of Economic Analysis, U.S. Department of Commerce. Because data on county-level number of jobs were available only through 1982 when these tables were constructed (January, 1986), this variable is for calendar year 1982.

[11] Data on Beginning Teachers' Salaries represent the Minimum Salary of Rank III Instructional Staff and come from Kentucky Department of Education, *Public School Salaries, Fiscal Year 1982-83*, "Minimum and Maximum Salaries in Kentucky's School Districts," pp. 7-10. Data are displayed by school district. For closer comparability with the 1982 Labor Earnings Per Job data, these data are for school year 1982-83.

[12] Data on Average Annual Salaries for Classroom Teachers are from Kentucky Department of Education, *Profiles of Kentucky Public Schools, Fiscal Year 1982-83*, pp. 47-50. Data are displayed by school district, and as above, school year 1982-83 data are used.

APPENDIX: SECTION 8

County Area Economic Values Relevant to Educational Finance, Kentucky, 1982-1983

County Area Amounts As Percentages of State Average Amounts

Co #	County	Per Pupil In Average Daily Attendance										Per Capita Personal Income		Labor Earnings Per Job		Teachers' Salaries			
		Taxable Property		Personal Income		Labor Earnings		Sales Tax		Income Tax						Beginning		Average	
		%	RANK	%	RANK	%	RANK	%	RANK	%	RANK	%	RANK	%	RANK	%	RANK	%	RANK
1	Adair	68.3	76	63.6	85	37.1	82	40.5	87	45.9	100	66.9	92	66.8	96	99.9	61	96.3	50
2	Allen	73.1	68	81.5	47	58.8	50	49.0	65	80.0	46	83.4	57	76.4	73	99.9	60	98.1	30
3	Anderson	100.1	28	84.4	42	45.0	64	40.8	86	88.9	29	101.1	22	86.7	46	95.7	118	94.8	74
4	Ballard	77.1	63	88.6	33	79.5	30	100.4	17	82.0	39	99.5	25	111.0	17	95.1	120	98.1	32
5	Barren	81.7	59	77.7	53	83.9	27	89.3	29	76.9	51	85.7	49	84.3	51	100.7	33	99.5	20
6	Bath	63.6	87	63.5	86	21.3	109	28.0	108	52.0	90	70.9	86	61.3	112	99.7	73	93.2	97
7	Bell	56.3	93	63.9	82	64.5	45	79.6	34	57.6	83	79.4	64	104.5	22	99.7	71	95.7	60
8	Boone	144.4	4	106.0	14	111.7	14	163.6	4	113.2	11	113.9	9	94.6	32	99.1	87	100.2	17
9	Bourbon	102.5	25	135.0	4	66.0	42	69.7	46	85.1	35	147.1	2	72.5	82	98.3	100	94.5	78
10	Boyd	105.3	20	110.3	10	136.4	8	161.2	5	119.3	9	113.2	11	121.2	10	103.0	12	101.8	11
11	Boyle	100.7	27	92.4	27	109.2	15	98.2	19	93.0	23	100.3	23	88.3	43	100.2	56	101.6	12
12	Bracken	74.1	66	74.9	58	30.0	102	30.7	104	59.5	81	82.5	60	69.0	89	100.8	29	93.7	91
13	Breathitt	61.0	89	56.7	98	58.4	52	41.3	84	53.1	87	69.3	87	129.2	4	100.3	42	94.9	71
14	Breckinridge	88.6	42	69.2	70	31.7	94	46.3	70	67.3	67	71.0	84	68.3	92	97.7	104	92.3	106
15	Bullitt	63.6	85	63.0	87	20.5	114	27.7	110	67.9	66	86.1	48	81.5	61	101.5	23	97.5	39
16	Butler	65.1	81	55.0	101	31.7	95	29.5	106	50.3	92	64.7	101	69.3	88	99.9	61	94.6	76
17	Caldwell	79.4	61	89.1	32	65.7	43	86.9	31	82.0	40	94.7	35	80.3	64	100.3	42	95.5	64
18	Calloway	109.6	13	106.1	13	82.0	29	106.1	14	95.5	20	90.7	41	78.5	67	99.5	78	98.9	25
19	Campbell	97.3	32	125.4	8	71.0	39	78.8	36	136.3	5	107.8	15	91.3	38	99.7	70	99.8	19
20	Carlisle	81.0	60	78.1	52	27.8	105	36.6	96	78.5	48	79.4	65	61.4	111	99.9	61	94.1	82
21	Carroll	135.8	5	85.1	41	100.2	19	89.0	30	75.0	54	97.9	27	111.2	16	96.0	117	93.2	99
22	Carter	49.2	103	54.4	102	31.1	99	44.1	77	46.3	98	66.4	93	81.9	58	96.0	116	93.4	95
23	Casey	63.4	86	53.7	104	32.1	92	36.7	95	36.1	113	57.9	110	61.2	114	100.5	36	92.4	105
24	Christian	72.5	70	106.5	12	212.3	1	91.0	23	77.8	50	93.8	37	90.5	40	105.3	3	101.8	10

25	Clark	107.4	16	98.6	21	93.1	22	109.0	12	102.6	16	109.4	14	93.9	33	96.4	114	94.3	80
26	Clay	32.0	119	55.8	100	53.8	58	45.4	72	42.6	105	68.4	89	113.3	12	100.0	58	96.0	53
27	Clinton	46.8	105	49.5	110	39.3	76	44.7	74	36.0	114	53.0	115	58.2	118	100.2	53	98.5	29
28	Crittenden	87.5	46	86.0	38	50.3	60	70.4	45	85.6	34	88.0	44	73.7	79	98.9	91	91.5	111
29	Cumberland	65.3	80	71.4	66	42.8	65	44.1	78	47.3	96	69.2	88	58.5	117	99.7	72	95.8	58
30	Daviess	135.6	6	128.6	6	123.0	10	144.1	6	145.4	3	113.9	9	98.6	30	99.5	77	108.5	2
31	Edmonson	50.3	98	52.8	106	23.3	106	25.0	114	42.5	106	57.0	112	66.1	99	99.1	87	93.6	92
32	Elliott	38.5	114	43.5	116	14.1	120	18.0	118	25.5	120	50.7	117	68.7	90	99.9	61	93.0	102
33	Estill	49.2	104	58.5	94	30.8	101	38.9	93	52.0	89	73.3	79	85.6	48	99.3	86	95.2	66
34	Fayette	192.6	1	170.0	1	210.9	2	244.6	1	168.7	2	142.4	3	104.4	23	108.9	1	108.1	4
35	Fleming	87.2	47	58.7	93	42.2	66	50.5	64	52.0	88	65.6	98	65.9	101	98.7	93	96.5	49
36	Floyd	49.8	100	67.1	75	59.0	49	69.0	48	71.8	59	71.7	82	107.4	20	99.9	61	94.0	84
37	Franklin	124.7	10	126.4	7	170.5	5	98.9	18	129.3	6	127.2	5	99.0	28	96.6	113	95.2	68
38	Fulton	72.0	71	81.7	46	65.5	44	74.3	42	72.8	56	100.1	24	71.7	85	100.3	42	95.4	65
39	Gallatin	82.6	57	67.6	74	33.0	88	37.9	94	59.9	79	79.2	68	72.5	83	98.8	92	92.1	107
40	Garrard	106.5	19	85.8	39	39.4	75	44.2	76	78.8	47	82.3	61	63.2	109	102.0	17	93.8	89
41	Grant	70.3	72	68.3	71	31.1	97	41.1	85	66.1	71	87.8	45	70.2	87	98.4	99	89.4	118
42	Graves	86.9	50	95.3	23	76.7	32	77.3	38	95.5	19	96.0	31	95.7	31	99.9	61	99.1	23
43	Grayson	70.0	73	68.1	72	49.8	61	61.4	54	57.2	84	75.0	76	74.0	77	97.3	108	94.6	77
44	Green	73.9	67	74.7	59	39.9	73	47.5	68	59.8	80	73.3	79	68.2	93	101.7	21	99.1	22
45	Greenup	83.9	56	80.5	48	88.7	25	59.0	58	82.0	41	97.2	28	144.4	3	104.5	5	101.3	14
46	Hancock	111.2	12	86.6	35	202.0	4	106.5	13	97.1	18	105.6	17	165.4	2	105.4	2	108.4	3
47	Hardin	87.0	49	104.6	15	158.6	7	90.1	26	81.9	42	91.8	39	89.5	41	99.8	69	101.3	13
48	Harlan	51.3	96	65.4	78	62.2	47	75.3	40	63.2	77	77.4	72	120.6	11	100.5	39	94.7	75
49	Harrison	93.8	37	88.6	34	72.2	35	67.0	51	91.5	27	95.9	32	82.6	56	97.0	110	94.1	83
50	Hart	64.1	83	76.7	55	40.4	71	44.7	73	62.9	78	68.2	90	66.5	98	98.7	93	97.0	41
51	Henderson	125.5	9	102.5	17	104.9	16	109.5	11	120.5	8	110.1	13	98.9	29	104.6	4	105.8	5
52	Henry	87.8	44	80.3	49	31.6	96	35.6	97	73.5	55	90.3	43	65.9	102	99.5	78	93.0	101
53	Hickman	99.5	29	74.6	60	49.1	63	33.8	100	80.2	45	74.5	78	66.5	97	101.7	22	97.9	35
54	Hopkins	105.0	21	104.0	16	96.8	21	111.1	10	111.7	12	115.5	8	109.7	18	100.6	34	96.8	43
55	Jackson	34.2	117	44.0	115	20.8	112	22.0	117	33.3	117	50.9	116	75.3	76	99.9	61	90.5	116
56	Jefferson	167.2	2	169.4	2	210.9	3	179.5	2	179.9	1	130.2	4	112.6	14	102.7	13	108.7	1
57	Jessamine	101.4	26	91.4	28	49.4	62	57.3	60	92.5	24	96.1	30	76.9	71	96.8	112	91.0	112
58	Johnson	55.8	94	64.3	81	50.6	59	91.6	21	70.0	61	78.5	70	103.9	24	101.5	24	96.2	51
59	Kenton	107.2	17	131.1	5	82.7	28	91.2	22	138.8	4	111.7	12	92.0	35	97.7	105	96.1	52
60	Knott	36.4	115	54.1	103	36.8	83	39.7	89	46.4	97	65.2	100	108.9	19	100.0	57	91.9	109
61	Knox	45.0	108	57.3	97	39.5	74	54.7	62	46.2	99	61.9	103	82.6	57	99.3	85	93.2	99
62	Larue	82.1	58	76.7	56	31.0	100	39.1	91	72.8	57	83.6	54	61.9	110	102.0	16	102.6	9

APPENDIX: SECTION 8 (Continued)

County Area Economic Values Relevant to Educational Finance, Kentucky, 1982-1983

County Area Amounts As Percentages of State Average Amounts

Co #	County	Per Pupil In Average Daily Attendance: Taxable Property		Personal Income		Labor Earnings		Sales Tax		Income Tax		Per Capita Personal Income		Labor Earnings Per Job		Teachers' Salaries: Beginning		Teachers' Salaries: Average	
		%	RANK	%	RANK	%	RANK	%	RANK	%	RANK	%	RANK	%	RANK	%	RANK	%	RANK
63	Laurel	65.6	79	66.3	77	71.4	38	79.0	35	64.1	75	77.0	73	91.8	36	99.1	87	93.4	94
64	Lawrence	55.5	95	61.8	88	31.1	98	46.2	71	58.0	82	72.2	81	85.5	49	99.5	78	88.0	120
65	Lee	43.8	110	52.2	107	35.7	84	44.3	75	44.7	103	59.0	107	82.8	55	103.0	11	93.4	96
66	Leslie	50.0	99	46.2	113	20.4	115	25.5	113	45.5	102	58.5	108	86.9	45	100.3	42	91.6	110
67	Letcher	42.4	111	60.9	91	35.4	86	55.9	61	49.9	93	71.2	83	100.5	26	101.1	26	95.2	67
68	Lewis	46.2	106	47.9	111	23.3	108	23.2	115	35.5	115	57.1	111	64.7	103	98.7	93	96.7	46
69	Lincoln	64.0	84	55.8	99	20.8	111	27.8	109	47.9	95	65.4	99	67.4	95	100.3	41	94.0	86
70	Livingston	87.5	45	82.7	43	41.7	68	60.6	55	75.6	52	91.9	38	87.2	44	99.4	84	94.4	79
71	Logan	87.1	48	80.2	50	76.8	31	69.4	47	78.2	49	80.9	63	91.5	37	97.9	102	95.0	70
72	Lyon	125.5	8	99.7	18	54.3	57	73.1	43	87.3	33	79.2	67	75.8	74	101.2	25	98.8	26
73	McCracken	98.4	30	117.2	9	128.4	9	179.3	3	121.4	7	119.9	6	103.0	25	103.1	9	104.1	6
74	McCreary	28.5	120	37.0	120	20.5	113	26.0	111	29.6	118	48.3	119	83.1	54	97.7	106	90.8	114
75	McLean	96.6	34	79.2	51	32.2	91	31.3	103	87.6	31	94.6	36	79.3	66	100.3	42	93.8	90
76	Madison	89.9	40	90.0	31	87.5	26	92.4	20	88.3	30	83.5	56	81.3	62	99.5	78	97.9	36
77	Magoffin	35.1	116	46.9	112	31.8	93	33.2	102	38.4	111	60.0	105	112.4	15	100.3	42	95.1	69
78	Marion	75.7	65	65.1	79	39.1	77	46.5	69	64.3	74	66.0	96	64.6	105	102.2	14	96.7	47
79	Marshall	103.8	23	92.9	26	102.4	17	103.8	16	95.0	22	95.5	33	121.4	9	100.7	30	98.1	31
80	Martin	86.4	52	63.7	83	112.3	12	70.9	44	80.6	43	83.0	58	193.2	1	100.3	42	88.9	119
81	Mason	128.6	7	96.0	22	112.7	11	129.7	8	83.0	37	98.6	26	85.4	50	100.8	28	96.6	48
82	Meade	69.9	74	86.1	36	35.5	85	43.7	80	66.8	68	77.7	71	99.7	27	101.9	18	103.0	8
83	Menifee	45.0	109	43.2	118	15.4	118	41.6	83	34.9	116	50.1	118	70.4	86	97.7	103	90.9	113
84	Mercer	92.6	39	82.2	44	54.6	56	58.6	59	83.5	36	90.5	42	77.0	70	100.7	30	93.8	87
85	Metcalfe	64.8	82	58.0	96	23.3	107	29.7	105	43.6	104	60.5	104	54.4	120	100.3	42	98.0	34

86	Monroe	58.1	91	58.1	95	41.2	70	47.9	66	51.5	91	66.3	94	60.2	116	99.7	73	95.8	59
87	Montgomery	76.1	64	70.4	68	63.8	46	78.6	37	66.0	72	84.8	51	73.9	78	96.2	115	95.9	57
88	Morgan	49.4	102	50.0	109	39.0	78	39.2	90	40.7	108	58.0	109	77.8	69	99.1	87	96.0	54
89	Muhlenberg	98.3	31	90.1	30	102.3	18	82.6	33	87.4	32	105.3	18	126.1	6	104.1	7	98.7	27
90	Nelson	123.5	11	90.4	29	58.5	51	67.7	50	92.1	26	90.9	40	83.9	53	103.1	10	103.1	7
91	Nicholas	77.5	62	71.9	64	40.2	72	38.9	92	68.2	65	76.5	74	64.6	104	97.2	109	93.2	98
92	Ohio	96.6	33	70.5	67	67.2	40	65.3	52	75.4	53	84.4	52	106.4	21	100.5	37	96.7	45
93	Oldham	103.7	24	94.0	25	41.8	67	47.6	67	100.3	17	116.1	7	80.2	65	98.4	97	95.9	56
94	Owen	86.6	51	68.1	73	32.4	90	33.6	101	55.7	85	71.0	85	67.7	94	97.4	107	92.0	108
95	Owsley	38.8	113	43.0	119	14.9	119	16.6	120	27.8	119	43.9	120	72.3	84	100.3	42	95.5	63
96	Pendleton	60.6	90	66.5	76	32.9	89	40.3	88	63.2	76	82.5	59	81.6	60	100.8	27	94.2	81
97	Perry	57.5	92	63.7	84	74.2	33	74.5	41	108.9	13	78.6	69	122.6	8	100.4	40	90.5	117
98	Pike	68.3	75	69.8	69	71.6	37	90.2	25	72.2	58	83.5	55	123.2	7	103.3	8	95.7	61
99	Powell	45.0	107	53.2	105	28.3	104	43.5	81	48.4	94	66.2	95	76.4	72	100.2	55	94.8	72
100	Pulaski	86.1	53	73.6	61	71.8	36	90.4	24	68.3	64	81.5	62	81.1	63	99.9	59	90.8	115
101	Robertson	67.4	78	60.0	92	17.2	117	17.0	119	41.7	107	67.7	91	57.6	119	99.5	83	98.9	24
102	Rockcastle	50.6	97	43.4	117	21.2	110	28.4	107	38.7	109	54.8	113	63.9	106	100.3	42	95.6	62
103	Rowan	72.6	69	72.6	63	72.2	34	89.8	27	65.3	73	74.7	77	84.1	52	98.4	98	97.6	38
104	Russell	61.4	88	61.2	90	41.5	69	60.0	56	45.8	101	64.0	102	61.3	113	99.6	76	96.9	42
105	Scott	85.7	54	99.7	19	66.6	41	62.2	53	92.3	25	105.8	16	75.7	75	97.0	110	92.8	104
106	Shelby	108.0	15	95.2	24	55.9	55	68.2	49	90.2	28	104.4	19	72.7	81	101.8	19	96.8	44
107	Simpson	96.0	35	82.0	45	91.6	23	75.7	39	82.3	38	97.2	28	91.3	39	98.0	101	98.1	33
108	Spencer	89.4	41	64.4	80	18.9	116	26.0	112	70.1	60	79.3	66	66.0	100	101.8	20	92.9	103
109	Taylor	84.5	55	85.2	40	97.9	20	89.6	28	80.3	44	86.5	46	78.1	68	100.6	35	99.4	21
110	Todd	68.0	77	61.8	89	38.0	79	35.2	98	66.4	70	65.8	97	60.8	115	99.5	82	93.8	88
111	Trigg	88.4	43	76.6	57	58.1	53	59.4	57	66.4	69	94.8	34	73.2	80	98.6	96	98.7	28
112	Trimble	103.8	22	77.2	54	37.4	81	34.6	99	69.5	62	85.4	50	81.9	59	95.6	119	93.6	93
113	Union	109.3	14	106.7	11	160.3	6	112.1	9	108.3	14	101.8	21	127.9	5	104.2	6	100.0	18
114	Warren	107.0	18	99.3	20	112.2	13	137.3	7	103.9	15	86.1	47	93.8	34	102.1	15	100.4	16
115	Washington	95.0	36	72.6	62	37.7	80	43.8	79	68.4	63	75.5	75	63.8	107	100.2	53	95.9	55
116	Wayne	39.1	112	50.3	108	33.9	87	43.1	82	37.7	112	59.7	106	63.2	108	100.5	38	97.1	40
117	Webster	93.2	38	86.1	37	60.1	48	50.9	63	95.1	21	104.1	20	112.7	13	99.6	75	94.8	73
118	Whitley	49.6	101	71.6	65	57.1	54	104.4	15	55.2	86	83.8	53	88.4	42	99.8	68	97.8	37
119	Wolfe	32.9	118	45.3	114	28.5	103	22.4	116	38.6	110	53.4	114	68.7	91	100.3	42	101.0	15
120	Woodford	156.7	3	135.4	3	91.4	24	84.5	32	113.9	10	152.4	1	85.7	47	100.7	30	94.0	85

Sources and Notes: See Text Notes, Section 8

9. Coal Industry Statistics

Large changes have occurred in recent decades in the United States among the geographic regions producing coal. These redistributions of coal production have been influenced by changes in coal mining technology and methods (for example, surface vs. underground mining) and changes in demand as to types of coal relative to environmental preservation regulations (for example, low- vs. high-sulphur coal). Table 9-A presents coal production statistics for the nation and its several coal producing regions and states, for 1960, 1970, and 1980 to 1984. Production amounts for each year are shown as percentages of the U.S. total production in the year.

The nation has three major coal producing regions: Appalachian, Interior, and Western. Kentucky's Western coalfields are in the nation's Interior region, and Kentucky's Eastern coalfields are in the nation's Appalachian region. In 1960, nearly three-quarters of the nation's coal production was in the Appalachian region, nearly one-quarter in the Interior region, and only 3.5 percent in the Western region. By 1984, however, the Appalachian region's share had decreased to about one-half of the total, the Interior region had remained almost unchanged, and the Western region had increased by 25 percentage points to account for 28.5 percent of the nation's coal production.

In view of the large changes in national coal production, how has Kentucky's coal production been affected? Kentucky's Eastern coalfields increased in share of the nation's coal production from 8.7 percent in 1960 to 12 percent in 1970 and stabilized in the 12 to 13 percent range through 1984. Thus, the Eastern coalfields of Kentucky have maintained their share of total coal production since 1970. But the picture is much different for Kentucky's Western coalfields, wherein share of national coal production declined from the 7 to almost 9 percent level in 1960 and 1970 to approximately a 5 percent level from 1980 to 1984. Kentucky's total coal production, however, has remained relatively constant over the period 1960 to 1984, measured as a percentage of national production, and Kentucky continues to be the nation's largest coal-producing state. The relative decline in the nation's Appalachian region between 1960 and 1984 was mostly at the expense of West Virginia (14 percentage points decline), Pennsylvania (7.1 points decline), and Ohio (3.8 points decline).

The coal production statistics used for Table 9-A are presented again in Table 9-B but in a form to allow comparison of growth over the years. All amounts are expressed as percentages of the 1970 amounts, for the nation, the three regions, and the individual states. Readers are cautioned that the indexed series, based on 1970 equaling 100 percent, do not show the relative importance of particular states and regions (as is shown in Table 9-A) but instead place each state and region on an equal basis (all 1970 values are 100) to allow easy comparison of growth in production over the years. Large

TABLE 9-A

Distribution of U.S. Coal Production, By Coal-Producing Regions and States, Selected Years, 1960-1984

Coal Producing Region and State	1960	1970	1980	1981	1982	1983	1984
U.S. Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Appalachian Total	72.7	69.3	53.1	52.2	51.4	48.7	49.3
Alabama	3.1	3.4	3.3	3.0	3.2	3.0	3.0
Georgia	*	—	—	—	—	*	*
Kentucky, Eastern	8.7	12.0	12.8	14.2	13.1	12.0	12.9
Maryland	0.2	0.3	0.5	0.5	0.5	0.4	0.5
Ohio	8.2	9.2	4.7	4.4	4.4	4.3	4.4
Pennsylvania	15.7	13.3	11.3	10.2	9.4	8.9	8.6
Tennessee	1.4	1.4	1.1	1.2	0.9	0.8	0.8
Virginia	6.7	5.8	4.9	5.0	4.7	4.4	4.5
West Virginia	28.6	23.9	14.6	13.8	15.4	14.8	14.6
Interior Total	23.8	24.9	21.4	20.4	21.4	22.3	22.2
Arkansas	*	*	*	*	*	*	*
Illinois	11.1	10.8	7.6	6.4	7.2	7.3	7.2
Indiana	3.7	3.7	3.8	3.6	3.8	4.1	4.2
Iowa	0.3	0.2	*	0.1	*	*	*
Kansas	0.2	0.3	0.1	0.2	0.2	0.2	0.1
Kentucky, Western	7.4	8.8	4.9	4.8	4.7	4.6	4.7
Missouri	0.7	0.7	0.7	0.6	0.6	0.6	0.8
Oklahoma	0.3	0.4	0.6	0.7	0.6	0.5	0.5
Texas	—	—	3.7	4.0	4.2	5.0	4.6
Western Total	3.5	5.8	25.5	27.4	27.2	29.0	28.5
Alaska	0.2	0.1	*	0.1	0.1	0.1	*
Arizona	*	*	1.3	1.4	1.5	1.5	1.3
Colorado	0.9	1.0	2.3	2.4	2.2	2.2	2.0
Montana	*	0.6	3.6	4.1	3.3	3.7	3.7
New Mexico	*	1.2	2.3	2.3	2.4	2.6	2.4
North Dakota	0.6	0.9	2.1	2.2	2.1	2.5	2.5
South Dakota	*	—	—	—	—	—	—
Utah	1.2	0.8	1.6	1.7	2.0	1.5	1.4
Washington	*	*	0.6	0.6	0.5	0.5	0.4
Wyoming	0.5	1.2	11.5	12.6	13.2	14.4	14.7

* Less than 0.1 percent.

Source: U.S. Department of the Interior, Bureau of Mines and Minerals, *Minerals Yearbook*, issues for 1960 and 1970; U.S. Department of Energy, Energy Information Administration, *Coal Production* (under several titles), issues for 1980 to 1984; Kentucky data are through the Kentucky Economic Information System.

Note: Traditionally, coal production data reported bituminous (including subbituminous) and lignite coal production. Beginning with data for 1979, production figures reported above also include anthracite. There is no lignite nor anthracite production in Kentucky. Also, beginning with data for 1978, total coal production excludes production from mines producing less than 10,000 short tons of coal during the year.

TABLE 9-B

Growth in Coal Production
By Coal-Producing Regions and States, Selected Years, 1960-1984
(Index Numbers: 1970 = 100)

Coal Producing Region and State	1960	1970	1980	1981	1982	1983	1984
U.S. Total	69	100	137	135	138	129	148
Appalachian Total	72	100	105	102	102	90	105
Alabama	63	100	132	118	128	115	131
Kentucky, Eastern	50	100	146	159	150	129	158
Maryland	46	100	233	263	233	194	251
Ohio	61	100	71	65	66	61	71
Pennsylvania	81	100	115	103	97	86	95
Tennessee	72	100	111	118	88	80	88
Virginia	80	100	116	116	112	99	114
West Virginia	83	100	84	78	89	79	90
Interior Total	66	100	118	111	119	116	132
Arkansas	153	100	68	81	51	23	22
Illinois	71	100	96	80	93	88	98
Indiana	70	100	139	131	142	143	169
Iowa	108	100	59	73	57	37	53
Kansas	55	100	62	84	86	78	82
Kentucky, Western	58	100	77	75	74	67	80
Missouri	65	100	123	110	120	112	151
Oklahoma	55	100	222	238	197	151	189
Texas	—	100	746	811	861	963	1017
Western Total	42	100	599	637	645	641	722
Alaska	132	100	133	147	152	143	156
Arizona	5	100	8261	8795	9366	8639	8728
Colorado	60	100	321	330	304	277	298
Montana	9	100	869	973	809	839	957
New Mexico	4	100	262	254	271	277	289
North Dakota	45	100	300	321	317	340	392
Utah	105	100	280	290	360	248	260
Washington	616	100	139	125	112	105	104
Wyoming	28	100	1315	1426	1500	1554	1813

Source: U.S. Department of the Interior, Bureau of Mines and Minerals, *Minerals Yearbook*, issues for 1960 and 1970; U.S. Department of Energy, Energy Information Administration, *Coal Production* (under several titles), issues for 1980 to 1984; Kentucky data are through the Kentucky Economic Information System.

Note: Because Texas had no coal production prior to 1972, the index numbers shown here were calculated with 1972 as the base year; i.e., 1972 = 100.

growth in a small production state such as Arizona is less important relative to total production than a smaller degree of growth in a large production area, such as Eastern Kentucky. Percentage changes can be misleading when based on very small production levels, such as the state of Washington between 1960 and 1970. For example, Table 9-A shows Washington's production to be less than one-tenth of one percent of the national total in each year, while Table 9-B shows Washington's 1960 production to be 616 percent of (six times as large as) its 1970 production. These cautions are less applicable to the statistical comparisons regarding large units, such as national regions and major coal producing states.

Table 9-B shows that, between 1960 and 1984, the nation's coal production increased from an indexed value of 69 to 148. The Appalachian region, however, increased only from 72 to 105 while the Interior region doubled from 66 to 132. Spectacular increase is shown for the Western region, with its indexed values increasing from 42 in 1960 to 722 in 1984. This 17-times-larger amount of production did not cause the Western region's share of total national production to be that large a multiple, however, because national production also increased. Nevertheless, the Western region's share increased from 3.5 to 28.5 percent of the national total between 1960 and 1984, meaning that its share was eight times as large in 1984 as in 1960.

For particular states, as shown in Table 9-B, the indexed series show unusually large percentage increases in the Western region. One reason, of course, is that coal production actually increased greatly. But another reason is that percentage increases appear unusually large when the beginning amounts are small, such as coal production in the Western region in 1960 and 1970. For Kentucky, the Eastern coalfields increased from an indexed value of 50 in 1960 to 158 in 1984, while its Western coalfields increased from an indexed value of 58 in 1960 to only 80 in 1984. The declines in coal production in several states in the Appalachian region were sizeable. For example, Ohio's 1983 indexed value, 61, was the same as its 1960 value, and its 1984 value was only 71. Pennsylvania's indexed value for 1984 was only 14 percentage points higher than its 1960 value. West Virginia had two years (1981 and 1983) with indexed values smaller than its 1960 values; its indexed value for 1980 was only one percentage point higher than its 1960 value; and its 1984 value exceeded its 1960 value by only 7 percentage points.

Table 9-C compares Kentucky and the nation in three measures of coal production activity, by years for the period 1970 to 1984, with all amounts expressed as percentages of the 1970 amounts (that is, index number series with 1970 = 100). The first two series, coal production and coal mining employment, show much less growth than does the third series because that series—coal mining wage and salary income—is originally measured in dollars and therefore is greatly exaggerated by inflation. Kentucky coal production increased between 1970 and 1984 from an indexed value of 100 to a value of 125 while national production increased from 100 to 148. Also of interest is the sizeable drop in Kentucky coal production in 1983 (15 percentage points) while national production declined only 9 points. The Kentucky indexed value in 1984 was one percentage point lower than its 1981 value whereas the national indexed values increased by 12 percentage points between 1981 and 1984.

TABLE 9-C

Bituminous and Lignite Coal Mining Production, Employment, and Wage and Salary Income, Kentucky and the United States, 1970-1984 (Index Numbers: 1970 = 100)

	Coal Production		Coal Mining Employment		Coal Mining Wage and Salary Income	
Year	Kentucky	United States	Kentucky	United States	Kentucky	United States
1970	100	100	100	100	100	100
1971	95	92	109	101	114	106
1972	97	99	116	113	133	130
1973	102	98	117	113	151	141
1974	110	100	152	126	221	173
1975	115	108	182	150	313	243
1976	115	113	184	159	337	277
1977	117	115	191	159	394	313
1978	108	110	207	148	440	338
1979	120	129	217	183	516	407
1980	120	137	208	174	548	440
1981	126	136	209	158	610	461
1982	120	138	206	167	622	498
1983	105	129	161	137	507	419
1984	125	148	174	139	574	467

Source: Sources for bituminous and lignite coal production are the sources given for Table 9-A; U.S. employment data are from the Bureau of Labor Statistics (BLS), U.S. Department of Labor, *Supplement to Employment and Earnings: Revised Establishment Data*, various years; Kentucky employment data are from the Kentucky Cabinet for Human Resources; U.S. and Kentucky income data are from the Bureau of Economic Analysis, U.S. Department of Commerce; all Kentucky data are through the Kentucky Economic Information System.

Note: As used in this table, coal refers to bituminous coal and lignite, excluding anthracite.

Somewhat different relationships are shown in the employment series, with coal employment increasing in the mid-1970s to a greater degree than coal production increased. A noticeable difference between the Kentucky and national series is that Kentucky's coal employment increased during the 1970s to a considerably greater degree than did national coal employment, while coal production increased to a greater extent nationally than in Kentucky. For 1984, national coal production was at a higher level, relative to 1970, than was coal mining employment, whereas the opposite was true in Kentucky. One possible reason for the greater employment increases in Kentucky than in the nation is the greater degree of importance in Kentucky of underground mining (more labor per ton) compared with surface mining (less labor per ton).

Selected from the tables on coal industry activities are several interesting relationships which are illustrated graphically. Figure 9-A compares the three national regions as to shares of total coal production over the period 1960 to 1984. The Western region's growth is shown to offset the Appalachian region's decline. Figure 9-B compares coal production over the 1970 to 1984 period in Kentucky and the nation, highlighting the smaller rate of growth in Kentucky. Figure 9-C compares coal production changes over the period 1960 to 1984 for the Eastern and Western Kentucky coalfields and also with West Virginia, illustrating the greater stability of Kentucky's Eastern coalfields.

Figure 9—A

Distribution of U.S. Coal Production

By Coal—Producing Regions, as Percent of Total Production

Selected Years, 1960—1984

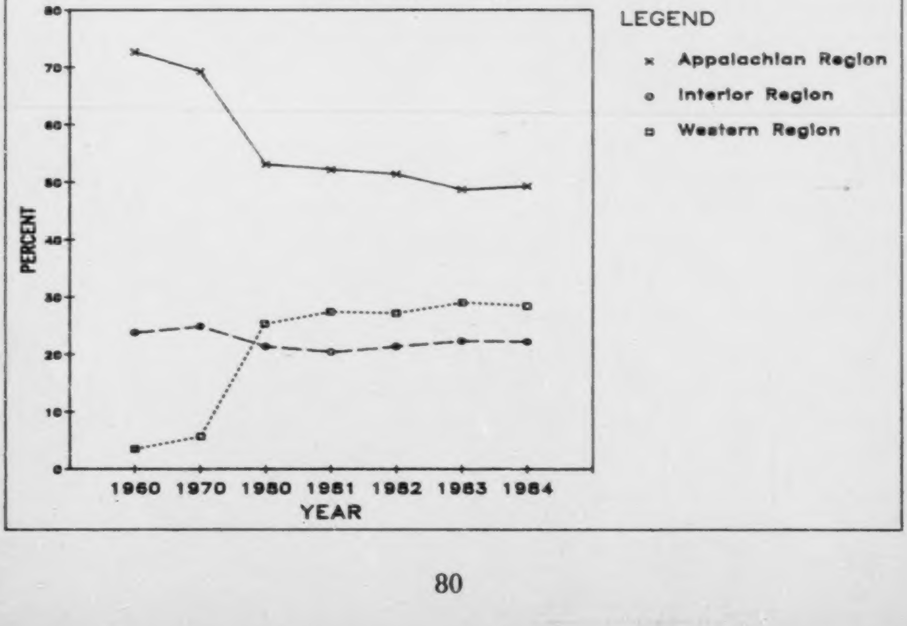


Figure 9—B

Bituminous and Lignite Coal Production
Kentucky and the United States, 1970—1984
(Indexed: 1970=100)

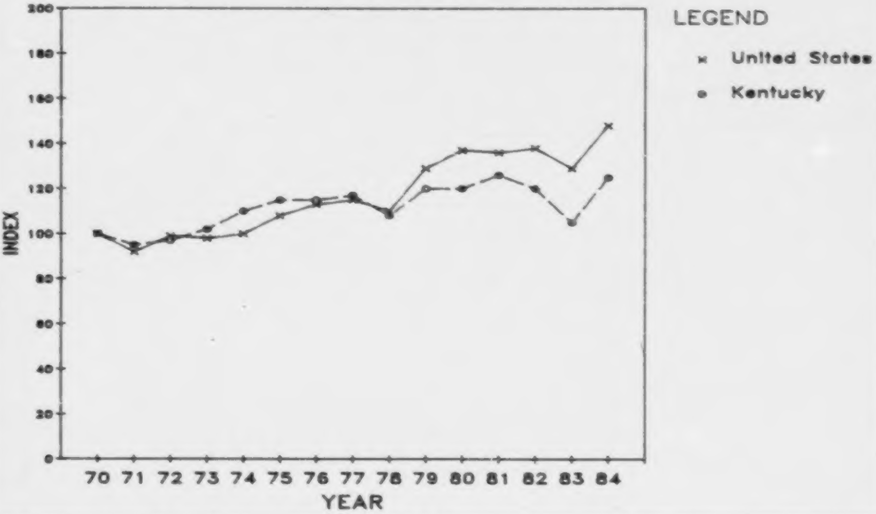
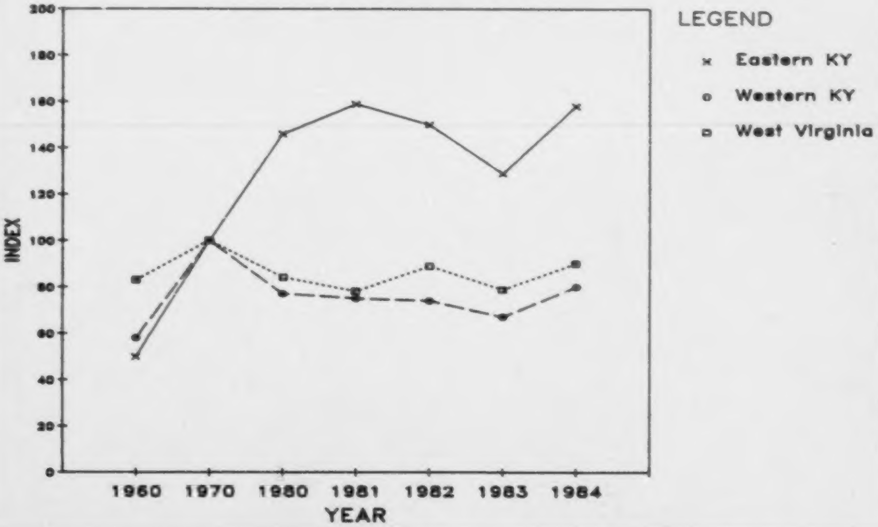


Figure 9—C

Growth in Coal Production
Eastern KY, Western KY, & West Virginia, Selected Years, 1960—1984
(Indexed: 1970=100)



10. Agricultural Statistics

Agricultural economic activity is analyzed in this section according to statistics for farm labor and proprietors' income for Kentucky, Tennessee, Georgia, the Southeast, and the United States. Farm labor and proprietors' income is one of the income sources included in the analysis of personal income in Section 3 of this report. Comparisons are made over the period 1958 to 1984 according to percentage shares of total personal income (Table 10-A) and over the period 1970 to 1984 according to annual amounts, with annual amounts shown as percentages of the 1970 amounts (Table 10-B). Of interest is whether Kentucky obtains a larger or smaller share of total personal income from agriculture than do the other states and groups compared, whether Kentucky has changed over the years in this respect, and how Kentucky's agricultural economy has performed relative to the other states and groups in terms of farm labor and proprietors' income.

Table 10-A shows that Kentucky derived a larger percentage of its total personal income from farm labor and proprietors' income than did Tennessee, Georgia, the Southeast, and the nation in all the years shown over the period 1958 to 1984. Generally over the period, Kentucky's personal income share from agriculture was twice as large as the nation's share. Within

TABLE 10-A

Total Farm Labor and Proprietors' Income as a Percent of Total Personal Income Kentucky, Tennessee, Georgia, the Southeast Region, and the United States, 1958-1984

	Percent of Total Personal Income				
Year	**Kentucky**	**Tennessee**	**Georgia**	**Southeast**	**United States**
1958	8.2%	6.2%	6.2%	6.4%	4.3%
1961	7.9	5.2	5.2	5.8	3.6
1964	5.6	3.9	4.1	4.8	2.8
1967	5.4	2.8	3.5	3.7	2.6
1970	4.3	2.4	2.7	3.0	2.3
1971	4.1	2.2	2.9	2.8	2.2
1972	4.6	2.4	2.7	3.0	2.4
1973	4.9	3.0	4.0	3.8	3.5
1974	5.0	2.0	3.2	3.3	2.7
1975	3.5	1.6	2.8	2.6	2.4
1976	3.8	1.8	2.4	2.4	1.9
1977	3.8	1.4	1.4	2.0	1.7
1978	3.4	1.7	2.2	2.4	1.9
1979	3.5	1.6	2.0	2.2	2.0
1980	2.8	1.2	0.7	1.4	1.4
1981	3.8	1.4	1.5	1.7	1.6
1982	3.4	1.3	1.5	1.5	1.2
1983	1.7	0.6	1.2	1.1	0.9
1984	3.5	1.4	1.7	1.6	1.4

Source: U.S. Department of Commerce, Bureau of Economic Analysis; Kentucky data through the Kentucky Economic Information System.

the period, however, Kentucky's differential was slightly smaller in the 1970s than either the before-1970 period or the after-1980 period. Compared with Tennessee, Georgia, and the Southeast, Kentucky's greater emphasis on agriculture, as shown by its personal income share from farm labor and proprietors' income, has generally remained stable, with occasional slight increases over the years shown.

Table 10-B shows that Kentucky's agricultural economy, when measured by farm labor and proprietors' income, grew to a greater degree than did the agricultural economies of Tennessee, Georgia, the Southeast, and the nation over the period 1970 to 1984. The degrees of growth are shown by the index values for 1984, which are percentages of the 1970 amounts. Kentucky had the largest 1984 index value (312), followed by 271 for Georgia, 244 for the Southeast, 239 for the nation, and 235 for Tennessee. Thus, Kentucky's share of total personal income derived from farm labor and proprietors' income not only is larger than in the other states and groups shown, but this source of income has grown in Kentucky by a larger percentage over the period since 1970. Kentucky's higher degree of growth is also shown in a comparison of 1979 and 1984, during which Kentucky's index value increased by 103 percentage points. The other increases were: 76 points for Georgia; 59 points for Tennessee; 40 points for the Southeast; and 25 points for the nation. Between 1982 and 1983, however, Kentucky's index value declined by 129 percentage points, which decrease was larger than that for

TABLE 10-B
Growth in Farm Labor and Proprietors' Income
Kentucky, Tennessee, Georgia, the Southeast Region, and the United States, 1970-1984
(Index Numbers: 1970 = 100)

	Farm Labor and Proprietors' Income				
Year	**Kentucky**	**Tennessee**	**Georgia**	**Southeast**	**United States**
1970	100	100	100	100	100
1971	104	98	116	105	104
1972	129	120	122	123	125
1973	152	174	208	182	206
1974	179	125	184	174	175
1975	135	107	171	150	167
1976	162	140	164	152	142
1977	184	117	106	143	145
1978	183	161	185	196	185
1979	209	176	195	204	214
1980	183	138	75	144	162
1981	279	191	178	198	214
1982	262	189	197	188	177
1983	133	96	174	150	142
1984	312	235	271	244	239

Source: U.S. Department of Commerce, Bureau of Economic Analysis; Kentucky data through the Kentucky Economic Information System.

the other states and groups: Tennessee declined 93 points; the Southeast declined 38 points; the nation declined 35 points; and Georgia declined 23 points. All of the states and groups shown experienced increases in 1984, with Kentucky's index value increasing by 179 percentage points while increases for the others were smaller: Tennessee increased 139 points; Georgia and the nation increased 97 points each; and the Southeast increased 94 points.

Looking at the overall picture in terms of farm labor and proprietors' income, agricultural performance in Kentucky was superior to agricultural performance in the other states and groups compared in Tables 10-A and 10-B. This is not to imply, however, that Kentucky's agricultural economy has been prosperous. All that is concluded is that agricultural performance has been favorable in Kentucky when compared with agricultural performance in the other states and groups and in terms of labor and proprietors' income.

The following graphs illustrate the greater and increasing importance of agriculture in Kentucky as a source of labor and proprietors' income. Figure 10-A compares Kentucky and the nation in farm income shares over the period 1958 to 1984. Figure 10-B compares Kentucky and the nation in annual indexed amounts of farm labor and proprietors' income over the period 1970 to 1984.

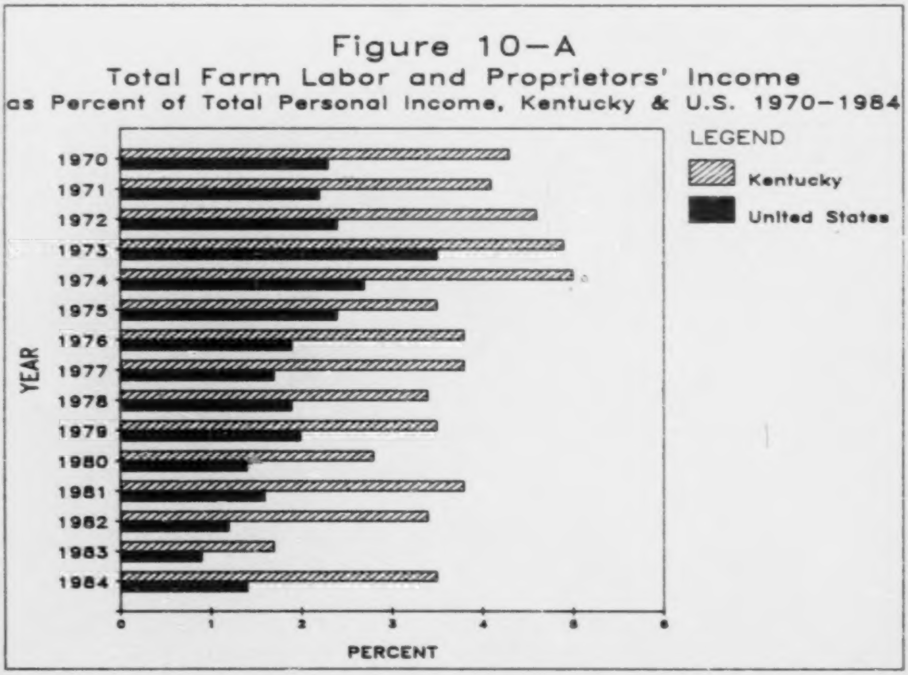
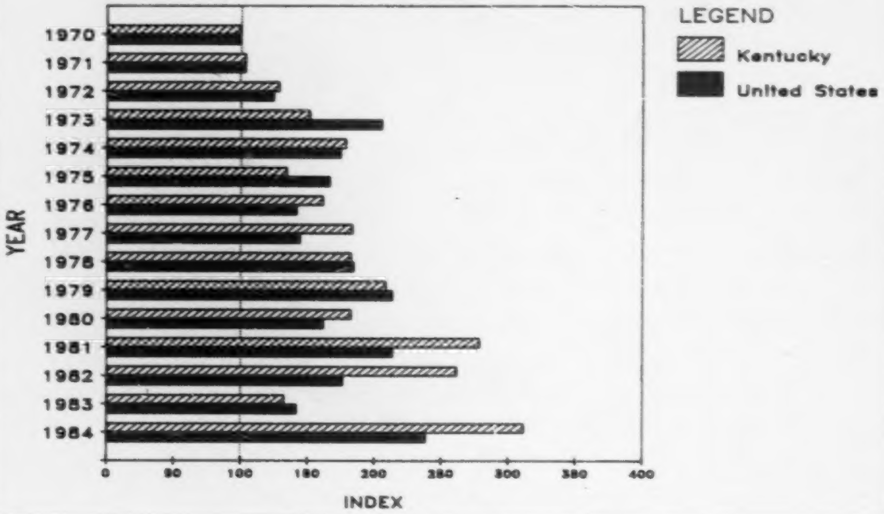


Figure 10–A
Total Farm Labor and Proprietors' Income
as Percent of Total Personal Income, Kentucky & U.S. 1970–1984

Figure 10-B

Growth in Farm Labor and Proprietors' Income
Kentucky and the United States, 1970-1984
(Indexed: 1970=100)



11. Construction Industry Statistics

Economic activity in the construction industry exhibits large degrees of variation from year to year as the industry is influenced by changes in general economic conditions and interest rates and also because of the postponable nature of most construction projects. Statistics concerning construction activity show variation from year to year, as well as differences between particular statistical series, not only because of the variable nature of construction activity but also because of the types of statistical definitions used. One common measure of the construction industry is the total dollar value of construction contracts awarded in each year. Another common measure of the amount of actual construction activity in each year is total wage and salary income paid to construction workers. These two measurement methods can give different results for particular years and therefore show different changes over the years. For example, a contract awarded in one year and counted in that year's statistics may result in wage and salary income paid over the several years that it takes to complete the project.

Other ways in which construction industry statistics differ from those of other industries are that construction activity takes a variety of forms, and the collection of statistics is done by both private businesses and governmental agencies that differ as to which segments of overall construction activity are of interest. A commonly used but narrowly defined economic series on construction activity includes only residential building construction and is according to contracts awarded. A broader series combines both residential and nonresidential building construction. Excluded from the residential and nonresidential building series are several important types of construction in which buildings (homes, apartments, stores, offices, etc.) are not the product. These other activities (termed nonbuilding) are for projects such as highways, bridges, and dams. Selected from available statistics are four economic series concerning construction activity and one mortgage interest rate series. Three of the construction activity series are compared in the first of the following tables while the fourth construction activity series is compared with interest rates in the second table.

Table 11-A compares Kentucky and the nation over the period 1970 to 1984 for three measures of construction activity, with annual amounts expressed as percentages of the 1970 amounts. The three are: Series A—total wage and salary income in contract construction; Series B—the value of total building and nonbuilding construction contracts awarded; and Series C—the value of total residential and nonresidential construction contracts awarded. The similarities and differences of these series should be noted. Series A and B are similar in that they include nearly all construction activity, but they differ in that Series A measures actual activity in a year whereas Series B measures the contracts awarded in a year. Series B and C are similar in that they measure contracts awarded in a year, but they

TABLE 11-A
Measures of Construction Activity, Kentucky and United States, 1970-1984
(Index Numbers: 1970 = 100)

			Value of Construction Contracts Awarded			
	Wage and Salary Income, Contract Construction		Total Building and Nonbuilding		Residential and Nonresidential Building	
	Series A		Series B		Series C	
Year	Kentucky	United States	Kentucky	United States	Kentucky	United States
1970	100	100	100	100	100	100
1971	110	108	141	117	125	123
1972	120	117	127	133	159	147
1973	131	130	125	145	139	158
1974	131	139	126	137	138	138
1975	131	135	122	136	124	125
1976	149	146	154	161	155	150
1977	167	161	190	205	217	197
1978	215	189	294	234	265	244
1979	240	217	259	247	240	253
1980	224	228	185	217	213	236
1981	220	240	290	225	240	244
1982	220	238	224	229	199	241
1983	200	242	226	284	271	317
1984	212	273	210	307	261	353

Source: F.W. Dodge Corp., Division of McGraw-Hill, Inc.; and U.S. Department of Commerce, Bureau of Economic Analysis; through the Kentucky Economic Information System.

differ in that such nonbuilding activity as highways, bridges, and dams is included in Series B but is excluded from Series C. All of the basic data from which these series are constructed are in dollars and therefore show exaggerated growth over the years because of inflation.

For Series A, the Kentucky values are similar to the national values over the period 1970 to about 1979, but after 1979 the Kentucky indexed values declined relative to the national values. Kentucky's index value of 240 in 1979 exceeded the national index value of 217 in that year by 23 percentage points. But in the following years, the Kentucky index values were below the national values in each year. By 1984, the Kentucky index value was below the national value by 61 percentage points. Relative to the nation, therefore, Kentucky's construction industry has declined generally in the period since 1979. Much the same is shown in Series B and C. The tendency for Kentucky economic activity to peak in the late 1970s and later decline is shown in both series, although not to the same degree as in Series A. For example, Kentucky's Series A values were below the 1979 value in all years after 1979 whereas Kentucky's value in Series B in 1981 was nearly at its peak and Kentucky's Series C value in 1983 was the highest in the entire period 1970 to 1984. Nevertheless, the overall picture given by the three series for the period since the late 1970s, for Kentucky compared with the nation, is one of relative decline in construction industry activity. Figure 11-A pictures these relationships by comparing Kentucky and the nation in terms of Series A.

Table 11-B uses the narrowest of the four construction activity series—residential building construction contracts awarded in Kentucky and the nation—to compare with interest rates for conventional home mortgages. Because most residential construction is financed with borrowed funds, these series concern different aspects of the same construction activity. Both the interest rates series and the residential contracts series can best be compared in terms of index numbers wherein the 1970 values are 100 percent and all other values are percentages of the 1970 amounts. The interest rate increase from the 6 percent level in 1964 to the 12.5 percent level in 1984 is shown as a change in index values from 71 to 149. Because of inflation, the value of the contracts-awarded series increased to a greater degree over the period. Of interest in comparing these series is whether changes in interest rate levels are accompanied by changes in value of contracts awarded.

TABLE 11-B

Effective Mortgage Interest Rates, National Average and Value of Residential Construction Contracts Awarded, Kentucky and the United States, 1964-1984

	Effective Mortgage Interest Rates		Value of Construction Contracts Awarded, Residential Building	
Year			Kentucky	United States
	(Percent)	(Index: 1970 = 100)	(Index: 1970 = 100)	
1964	6.0%	71	63	84
1965	5.9	70	73	87
1966	6.4	76	57	73
1967	6.5	77	70	86
1968	7.0	83	89	101
1969	7.8	93	91	103
1970	8.4	100	100	100
1971	7.7	92	134	141
1972	7.5	89	181	184
1973	8.0	95	149	187
1974	9.0	107	123	137
1975	9.2	110	114	128
1976	9.1	108	154	180
1977	9.0	107	219	253
1978	9.6	114	284	287
1979	10.9	130	249	288
1980	12.9	154	207	237
1981	15.0	179	201	246
1982	15.3	182	188	242
1983	12.8	152	273	382
1984	12.5	149	277	412

Source: Federal Home Loan Bank Board; and F.W. Dodge Corporation, Division of McGraw-Hill, Inc.; through the Kentucky Economic Information System and by telephone call.

Note: Effective mortgage interest rates are the national averages for loans closed by all major lenders for conventional home mortgages.

The existence of several factors suggests that a close and immediate relationship should not be expected; the Kentucky and national contracts-awarded series are inherently variable; a reaction lag may exist between national average mortgage interest rate changes and contract award changes; a particular level of mortgage interest rates may be regarded as a larger cost when the inflation rate is low than when the inflation rate is high; and the awarding of construction contracts may be slowed or accelerated depending upon expectations of future changes in the many conditions affecting construction, especially as regards interest rate and inflation changes. Because of these complications, these series can better be compared by viewing them graphically.

Figure 11-B plots the mortgage interest rate series and the Kentucky and national residential contracts-awarded series in terms of the index numbers from Table 11-B. Several interesting relationships are pictured. The Kentucky and national residential contracts-awarded series generally move together up to about 1979 and thereafter diverge, with the national series falling to a lesser degree and then increasing to a greater degree as compared with the Kentucky series. Interaction between mortgage interest rates and contracts awarded can be seen in the period 1969 to 1974 wherein a slight decline and later increase in mortgage interest rates were accompanied by an increase and later decline in contracts awarded. Again in the period 1975 to 1981, there seems to be a similar relationship, with declines or slower increases in mortgage interest rates being accompanied by increases in residential contracts awarded, to be followed by declining residential contract awards when mortgage interest rates increased in the late 1970s and early 1980s. Finally, the lower mortgage interest rates in 1983 and 1984 were accompanied by increased residential contract awards. It should be remembered, of course, that many other economic forces were at work during these periods.

Figure 11–A

Wage and Salary Income

Contract Construction (Series A), Kentucky & U.S. 1970–1984

(Indexed: 1970=100)

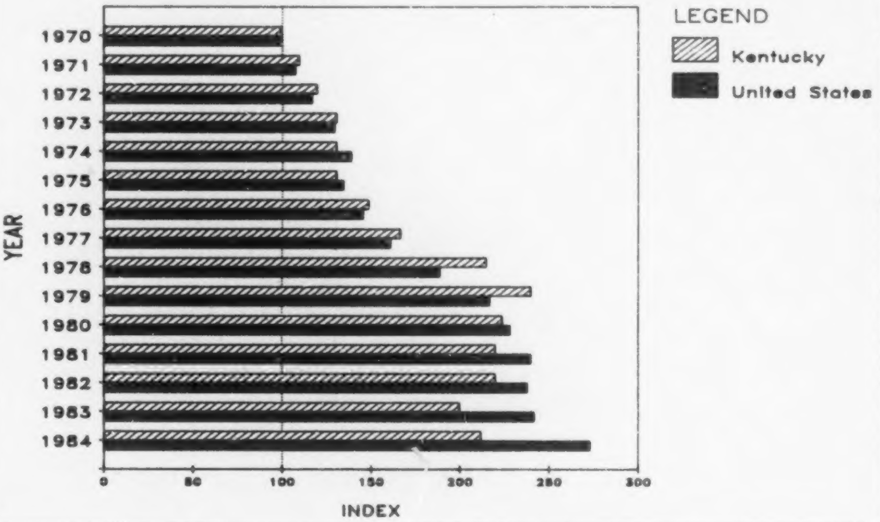
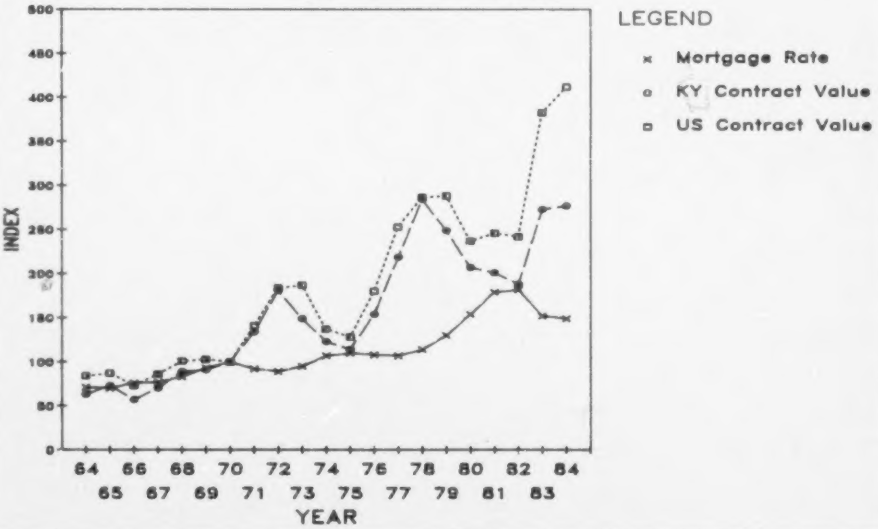


Figure 11–B

National Mortgage Rates and the Value of Residential Construction Contracts Awarded for Kentucky & U.S., 1964–1984

(Indexed: 1970=100)



Part I: Glossary

This glossary provides definitions of selected terms and methodological descriptions related to most of the data presented in Part I of the Annual Economic Report. *It is divided into two parts to allow for a distinction between the data whose source is the Bureau of Economic Analysis, U.S. Department of Commerce and the data whose source is the Bureau of Labor Statistics, U.S. Department of Labor and its state-level cooperative agency, the Kentucky Cabinet for Human Resources. Data from all other sources are defined either within the text or as a note, as appropriate.*

THE COMPONENTS OF PERSONAL INCOME

This part of the glossary provides an overview of the components of personal income and is organized in a manner intended to highlight each component and then its subcomponent(s). These definitions are taken from: U.S. Department of Commerce, Bureau of Economic Analysis, *State Personal Income: Estimates for 1929-83 and a Statement of Sources and Methods* (Washington, D.C.: U.S. Government Printing Office) 1984.

PERSONAL INCOME. Personal Income is the income received by persons from all sources, that is from participation in production, from both government and business transfer payments, and from government interest. Personal income is the sum of Wage and Salary Disbursements, Other Labor Income, Proprietors' Income, Rental Income of Persons, Personal Dividend Income, Personal Interest Income, and Transfer Payments, less Personal Contributions for Social Insurance. Persons are defined as individuals, nonprofit institutions, private noninsured welfare funds, and private trust funds. The last three are referred to as "quasi-individuals" and make up only a small part of the total number of persons.

PER CAPITA PERSONAL INCOME. This is total personal income of the residents of a given area divided by the resident population of the area. Midyear (July 1) estimates of population are used (prepared by the Bureau of the Census), although income is measured as a flow over the year.

WAGES AND SALARIES. Wages and Salaries are defined as the monetary remuneration of employees, including compensation of corporate officers; commissions, tips and bonuses; and receipts-in-kind that represent income to the recipients. They are measured before such deductions as social security contributions and union dues. The term "disbursements" used in conjunction with wages and salaries indicates that retroactive wages and salaries are counted when paid rather than when earned.

PRIVATE NONFARM WAGES AND SALARIES. Approximately 95 percent of Private Nonfarm Wages and salaries are derived from tabulations by the State employment security agencies from their State employment security reports (form ES-202), as part of the administration of the State unemployment insurance (UI) contribution program. To these UI-based data, which do not precisely meet the statistical and conceptual requirements of the personal income estimates, BEA makes some adjustments and additions, primarily a conversion from a place-of-work basis to a place-of-residence basis. (See discussion of the Residence Adjustment, below.) In addition, BEA supplements the UI-based data for some industries, for elements of UI-covered industries that remain outside the scope of the UI program, and for the five industries that are treated as noncovered (railroad transportation, private households, private educational services, membership organizations, and "other").

GOVERNMENT NONFARM WAGES AND SALARIES. The estimates of Government Wage and Salary Disbursements include payrolls of federal civilian, federal military, state education, state government excluding education, local education, and local government excluding education, and of governmental enterprises. These latter are government activities in which the operations are financed primarily by the sales of goods or services to the public rather than by general revenues.

FARM WAGES AND SALARIES. This component of Personal Income is measured as the sum of cash wages of hired farm labor, the pay-in-kind of hired farm labor, and the salaries of officers of corporate farms. This estimate is similar to the U.S. Department of Agriculture's state estimates of farm labor expenses, in that both measures (BEA's and USDA's) exclude payments for contract labor. In the BEA estimates contract labor is included with wages and salaries in agricultural services. The USDA estimates also exclude the salaries of officers of corporate farms.

OTHER LABOR INCOME. This component of Personal Income consists of employer contributions to privately administered pension and welfare funds and of a few small items, including directors' fees, compensation of prison inmates, and miscellaneous judicial fees.

PROPRIETORS' INCOME. This component of Personal Income is the income, including income-in-kind, of sole proprietorships, partnerships, and of tax-exempt cooperatives. Dividends and monetary interest received by proprietors of nonfinancial businesses and rental income received by persons not primarily engaged in the real estate business are excluded; these incomes are included in Dividends, Net Interest, and Rental Income of Persons, respectively (see below).

PERSONAL CONTRIBUTIONS FOR SOCIAL INSURANCE. These contributions, which are subtracted from income to derive Personal Income, consist of payments by employees, self-employed, and other individuals who participate in the following programs: federal old-age, survivors, disability, and hospital insurance; supplementary medical insurance; State unemployment insurance; railroad retirement insurance; government retirement; and veterans life insurance.

PERSONAL DIVIDEND INCOME. This component of Personal Income measures the dividends received by persons from all sources. Dividends are payments in cash or in other assets, excluding stock, by corporations organized for profit to noncorporate stockholders who are U.S. residents.

PERSONAL INTEREST INCOME. This component of Personal Income is the interest income of persons from all sources. In addition to monetary interest flows, personal interest income includes flows of interest-in-kind (imputed interest).

RENTAL INCOME OF PERSONS. This component of Personal Income is the monetary income of persons from the rental of real property (excluding the income of persons primarily engaged in the real estate business), the imputed net rental of owner-occupants of nonfarm dwellings, and the royalties received by persons from patents, copyrights, and rights to natural resources.

TRANSFER PAYMENTS. This component of Personal Income measures payments to persons for which they do not render current services. Generally, they are paid in monetary form. At the State level, approximately 90 percent of transfer payments are measured on the basis of directly reported data; the remaining 10 percent are estimated on the basis of indirect, but generally reliable, data. The major categories of transfer payments include: Government Payments to Individuals, Business Payments to Individuals, and Payments to Nonprofit Institutions.

GOVERNMENT PAYMENTS TO INDIVIDUALS. Included in this category are: Retirement, Disability, and Health Insurance Benefit Payments; Unemployment Insurance Benefit Payments; Federal Education and Training Assistance Payments; Income Maintenance Benefit Payments; Veterans Benefit Payments; and Other Payments to Individuals.

BUSINESS TRANSFER PAYMENTS. Business Transfer Payments to individuals include allowances for consumer bad debts, cash prizes, auto liability payments for personal injury, medical malpractice liability payments, railroad and miscellaneous liability payments, losses due to forgery, and unrecovered thefts.

PAYMENTS TO NONPROFIT INSTITUTIONS. These include Federal Government Payments such as to private nonprofit hospitals for construction and, as part of Federal scholarships, to private educational institutions for the educational cost portion; State and Local Government Payments for foster home care, educational assistance payments to nonprofit institutions, and other payments; and Business Payments to nonprofit institutions in the form of corporate gifts of money, securities, or real property.

RESIDENCE ADJUSTMENT. This is the adjustment that is made to Wages and Salaries, Other Labor Income, and Personal Contributions for Social Insurance (with minor exceptions) to place them on a where-received basis. The adjustment is necessary because the components of Personal Income are estimated from data that are reported by point of disbursement (place of work). Essentially, the State Residence Adjustment is the sum of the county residence adjustments. The amount of the residence adjustment for each county is the total inflows of labor income of intercounty commuters minus the total outflows. These flows are calculated as the product of labor income in the county of work multiplied by a residence adjustment factor, which is the ratio of the wages of workers who work in the county but reside in another county (in-commuters) to the total wages of all employees working in the county (residents and nonresidents). The residence adjustment factors are computed at decade intervals, based upon commuting information from the decennial census.

HOUSEHOLD AND ESTABLISHMENT EMPLOYMENT DATA

This part of the glossary provides descriptive information and definitions regarding employment as estimated by the Bureau of Labor Statistics, U.S. Department of Labor and its cooperative agency in Kentucky, the Cabinet for Human Resources. This material is taken from the Explanatory Notes found in the monthly, *Employment and Earnings*, published by the Bureau of Labor Statistics. Annual data reported in the *Commonwealth of Kentucky Annual Economic Report—1985* are an average of the monthly estimates.

HOUSEHOLD DATA: LABOR FORCE, EMPLOYMENT, UNEMPLOYMENT, UNEMPLOYMENT RATE, AND LABOR FORCE PARTICIPATION RATE. National data based on household interviews are obtained from a sample survey of the population 16 years of age and over, the Current Population Survey (CPS). The CPS is conducted each month by the Bureau of the Census for the Bureau of Labor Statistics and provides comprehensive data on the labor force, the employed, and the unemployed. The survey has coverage in the 50 states and the District of Columbia and is based on activity or status reported for the calendar week including the 12th day of the month. Labor force and unemployment estimates for states and other areas covered under federal assistance programs are developed by state employment security agencies under a Federal-State cooperative program. (In Kentucky this agency is the Cabinet for Human Resources.) The estimates for the 11 largest states are taken directly from the monthly CPS; however for the remaining 39 states, including Kentucky, these estimates are prepared in several stages. For a complete description of this methodology, consult the *BLS Manual for Developing Local Area Unemployment Statistics*. These data are residence-based.

LABOR FORCE. The sum of the employed and unemployed persons. *Civilian Labor Force* excludes members of the Armed Forces stationed in the United States.

EMPLOYED PERSONS. All persons who, during the survey week, did any work at all as paid employees, in their own business, profession, or on their own farm, or who worked 15 hours or more as unpaid workers in an enterprise operated by a member of the family; and, all those who were not working but who had jobs or businesses from which they were temporarily absent because of illness, bad weather, vacation, labor-management disputes, or personal reasons, whether they were paid for the time off or were seeking other jobs.

UNEMPLOYED PERSONS. All persons who had no employment during the survey week, were available for work, except for temporary illness, and had made specific efforts to find employment sometime during the prior 4 weeks, or were waiting to be recalled to a job from which they had been laid off, or were waiting to report to a new job within 30 days.

UNEMPLOYMENT RATE. The number of unemployed persons as a percent of the civilian labor force.

LABOR FORCE PARTICIPATION RATE. The proportion of the civilian labor force to the civilian noninstitutional population, 16 years of age and older.

ESTABLISHMENT DATA: EMPLOYMENT, BY INDUSTRY. These data are on a place of work basis. Payroll reports provide current information on wage and salary employment, hours, and earnings in nonagricultural establishments, by industry and geographic location. Under cooperative arrangements, responding establishments report employment, hours, and earnings data to State agencies (in Kentucky, the Cabinet for Human Resources). State agencies mail the forms to the establishments and examine the returns for consistency, accuracy, and completeness. The states use the reported data to prepare state and local area series and also send the reported data to the BLS for use in preparing the national series.

Form BLS 790—Report on Employment, Payroll, and Hours is the name of the data collection schedule. It provides for entry of data on the total number of full- and part-time workers on the payrolls of nonagricultural establishments and, for most industries, employment, payroll, and hours of production and related workers or nonsupervisory workers for the pay period which includes the 12th day of the month.

Establishments reporting on Form BLS 790 are classified into industries on the basis of their principal product or activity, determined from information on annual sales volume, collected on a supplement to the quarterly unemployment insurance tax reports filed by employers. For an establishment making more than one product or engaging in more than one activity, the entire employment of the establishment is included under the industry indicated by the principal product or activity.

EMPLOYMENT BY INDUSTRY. These data refer to persons, except those employed by the Federal Government, who received pay for any part of the pay period which includes the 12th day of the month. For Federal Government establishments, employment figures represent the number of persons who occupied positions on the last day of the calendar month.

These data exclude proprietors, the self-employed, unpaid volunteer or family workers, farm workers, and domestic workers. Salaried officers of corporations are included. Government employment covers only civilian employees; military personnel, employees of the Central Intelligence Agency, and the National Security Agency are excluded.

Persons on establishment payrolls who are on paid sick leave (when pay is received directly from the firm), on paid holiday, on paid vacation, or who work during a part of the pay period even though they are unemployed or on strike during the rest of the period are counted as employed. Not counted as employed are persons who are on layoff, on leave without pay, on strike for the entire period, or who were hired but have not yet reported during the period.

PART II

STATE AND LOCAL GOVERNMENT FINANCES

Introduction

Part II of the *Commonwealth of Kentucky Annual Economic Report—1985* concerns the finances of state and local governments. It is divided into four sections: revenue (12), expenditures (13), federal aid (14), and debt financing (15). Kentucky is compared with the fifty-state average and, in many cases, with Tennessee and Georgia, over periods of years that in many cases extend back to 1960. The latest year in most comparisons is 1984. The statistical information in nearly all cases is from the U.S. Bureau of the Census because that is the only available source that allows comparisons among the 50 states and approximately 80,000 local governments according to uniformly defined statistical measures and resulting from uniform collection processes. Some data used in the debt-financing section is from Kentucky state government sources. While the Kentucky data source allows a more detailed analysis of debt in Kentucky, no comparisons of that detail can be made between Kentucky and other states.

Comparison of Kentucky with Tennessee and Georgia raises the question of why those two states were chosen. Tennessee was chosen because of its social and demographic similarity and its very close geographic proximity to Kentucky. Georgia was selected as representative of a southeastern state that had per capita personal income above the southeastern average in 1984 but was not influenced by obviously unusual forces. Of the three southeastern states with above the group average income in 1984, Virginia was omitted because of the influence of the nation's capital, and Florida was omitted because its economic characteristics have for many decades been very unusual among the southeastern states, as well as because of its very different climate and geographic location. The third state, Georgia, was selected.

The statistical information in Part II of this report is presented for a number of categories whose precise meanings might not be readily apparent. Readers therefore are encouraged to consult the Glossary of terms included at the end of the report. These definitions are applicable to statistical information from the U.S. Bureau of the Census and may differ not only from popular usage but also from state or local government usage in particular states.

12. Revenue of State and Local Governments

This section on revenue compares Kentucky with the fifty-state average (and also in some cases with Tennessee and Georgia) according to a variety of measures of revenue performance, in total and by revenue sources, and generally over the period 1970 to 1984 but in some cases back to 1960. Because the section is long, two major divisions are made: the first is a short history of tax changes in Kentucky since 1936, including a summary in Table 12-A; the second is a statistical analysis.

As discussed earlier, the definitions of Revenue, in all its forms, used in this section are those of the Bureau of the Census (U.S. Department of Commerce). Readers should consult the Glossary at the end of Part II of the *Annual Economic Report* for these definitions. In addition, readers should keep in mind that none of the tax changes enacted in 1984 and 1985 by the Kentucky General Assembly, nor by the legislatures of any of the states, will yet be reflected in the statistics analyzed here.

Tax Changes in Kentucky: A Short History

The Kentucky tax system underwent major reorganization in 1936, with fiscal year 1937 (1936-37) being the year first affected. The 1934 General Assembly had enacted a general retail sales tax at 3 percent, but intense popular opposition caused the tax to be essentially inoperative. It was replaced in 1936 by the individual and corporation income taxes. Nevertheless, two parts of the 1934 sales tax were retained—the 3 percent tax on public utility gross receipts (revenue to the General Fund) and the 3 percent tax on motor vehicle sales (revenue to the General Fund until 1945 and to the Road Fund after 1945). Prior to adoption of the retail sales tax in 1960, the individual income tax was increased by two changes in 1956: addition of a surtax, and reduction of the personal (dependent) credit from $20 to $12. The surtax was 10 percent of the first $25 of regular tax liability, 20 percent of the next $75 of tax liability, and 30 percent of tax liability over $100. The change in personal credit caused taxpayers to pay an additional $8 of tax per family member. In 1958, the personal credit was raised to $13 where it remained until 1960.

Consequently, the state government tax system in the period 1936 to 1960 consisted of taxes on property, individual and corporation incomes, sales of motor vehicles and public utility services, sales of motor vehicle fuels, licenses on motor vehicles and operators, and a number of other relatively minor taxes such as excises and licenses related to cigarettes and alcoholic beverages, the inheritance tax, and the corporation net worth tax. Kentucky was unusual among the 50 states in making below average use of sales taxes and above average use of individual income tax. Local governments main-

TABLE 12-A

Chronological List of Major Tax Changes in Kentucky

Year	Description of Change*	
	Revenue-Decreasing Changes	Revenue-Increasing Changes
1936	Repealed most of 1934 retail sales tax	Adopted individual and corporation income tax
1948		Adopted local income (payroll) tax in Louisville
1956		Increased individual income tax
1960	Reduced individual income tax	Adopted retail sales tax
1966	Property assessment increases; rate rollbacks	Allowed school districts one nonproperty tax
1968	Began removal of distilled spirits production tax	Increased sales tax rate
		Increased motor vehicle license and operator taxes
1970	Exempted prescription drugs from sales tax	Increased cigarette sales tax rate
1971	Reduced agricultural land valuations	Eased limits on property tax growth
1972	Exempted home consumption food from sales tax	Adopted coal severance tax
	Partially exempted homesteads from property tax	Increased corporation income tax *effective* rate
1974	Adjusted homestead exemption for inflation	
1976	Reduced individual income tax slightly	Increased coal severance tax
	Local required school property tax redefined to become a state tax	

1978	Effectively exempted unmined coal as property	
1979	Limited property tax growth (H.B. 44) Exempted residential utilities from sales tax	
1980	Effectively exempted stored distilled spirits from state property tax rate	Increased petroleum severance tax Extended severance tax to other minerals Changed motor vehicle fuel tax to percentage rate Alcoholic beverages wholesalers taxes adopted
1982	Eased depreciation rules on income taxes	Increased motor vehicle fuel tax Adopted weight-distance truck license tax
1984		Tightened depreciation rules on corporation income tax Encouraged school districts to levy 15¢ property tax Allowed school districts to use three nonproperty taxes
1985	Effectively exempted inventories (except finished goods) from state property tax Reduced inheritance tax by exempting inter-spousal transfers	Encouraged school districts to levy 25¢ property tax Increased corporation income and net worth taxes and redefined method for taxing multistate corporations

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*Numerous exemptions have been built into the retail sales tax law. A publication of the Kentucky Revenue Cabinet, *Tax Facts: A Digest of Kentucky Tax Laws, 1985*, lists 36 groups of sales tax exemptions. Mainly these exemptions fall into these broad types: food for home consumption; residential utility purchases; business purchases for resale (directly, or indirectly as ingredients, supplies, or equipment); most personal services; sales to out-of-state customers (because of the federal prohibition on taxation of interstate commerce); and various favored groups or activities (churches, historical sites, blood banks, etc.).

Source: *Annual Reports* of the Kentucky Department of Revenue and the Kentucky Revenue Cabinet, various years; and recent information from the Legislative Research Commission.

ly used the property tax, although the Occupational License (payroll) tax became important for cities after its development in Louisville in 1948.

Adoption of the 3 percent retail sales tax (effective July 1, 1960) was a major upward change in Kentucky tax revenue. The tax applied broadly to final sales of tangible personal property; it gave few exemptions for business purchases; and it generally did not tax services. The upward effect on tax revenue available for *general government services*, however, was less than might be expected from adoption of a 3 percent sales tax, because of several offsetting factors. First, the state was already taxing public utility gross receipts at 3 percent, with revenue going to the General Fund. Second, sales of motor vehicles and related products were already being taxed at 3 percent and, moreover, the revenue went to the Road Fund. Third, the individual income tax was reduced approximately 40 percent by two changes—an increase from $13 to $20 in the tax credit per dependent, and the elimination of the income surtax adopted in 1956. Fourth, part of the new sales tax revenue was dedicated to pay interest and retire principal on bonds sold to pay a veterans bonus. Nevertheless, Kentucky state government experienced a major upward boost in tax revenue, beginning with fiscal year 1961, because of adoption of the retail sales tax.

The next big event in Kentucky taxation was the court-ordered change to full value assessment for property taxation (Russman vs Luckett, effective January 1, 1966). According to the court ruling, all property subject to taxation must be assessed (valued) for tax purposes at its fair cash value. Because property on average had been valued at about 26 percent of fair cash value (medians by counties ranged from 15 percent to 40 percent), the *potential* impact of this ruling was to triple or quadruple tax revenue from existing property tax rates. Such large increases were prevented, however, by the rate rollback legislation enacted by a special legislative session in 1965.

The rollback law required that property tax rates, in each taxing jurisdiction, be reduced sufficiently that *total* property tax receipts in a district would be no larger in 1966 than if assessed values had not been revalued up to fair cash value. Particular parcels of property that had been assessed at below average percentages of fair cash value experienced tax increases, while other parcels of property that had been assessed at above average percentages of fair cash value experienced tax reductions, with both types of changes occurring within an unchanged total of property tax revenue within the district. Some increase in tax revenue was allowed in the form of two (one each year) tax rate increases of 10 percent each. Not all taxing districts chose to make the increases, however. Broadly viewed, the net effect of these property tax changes (full value assessments plus rate rollbacks) was not to increase tax revenue but instead to redistribute the total property tax burden more fairly among and within classes of property.

Two other changes occurred before 1968. The taxing powers of local school districts were increased in 1966 so that, in addition to the property tax, a district could adopt any one of three nonproperty taxes: up to 3 percent rate on public utility sales; up to 0.5 percent rate on payrolls and business net profits (Occupational License Tax); or up to 20 percent rate on individual state income tax liabilities. Each of these tax changes was made subject to possible voter recall elections. In 1967, two exemptions from the state retail sales tax were adopted: sales of one-cent items through vending machines; and some purchases by businesses operating ships on navigable waters.

Several tax changes were made in 1968, the most important being the increase in the rate of retail sales tax from 3 to 5 percent (effective April 1, 1968). Also, the motor vehicle license tax was raised from $4.50 to $11.50 beginning with the 1969 plates and the 50 cent County Clerk fee was raised to one dollar. The motor vehicle operator's license was raised from $2 to $3. Partly offsetting these tax increases were several decreases. The property tax rate was reduced for selected types of intangible personal property, and farm machinery was exempted from the retail sales tax (if exclusively and directly used in farming). Also repealed (in five equal annual installments beginning with fiscal year 1968) was the tax of 10 cents per proof gallon on the production and importation of distilled spirits.

The 1970 legislative session brought several tax changes. Prescription drugs and selected medical appliances (wheel chairs, etc.) were exempted from the retail sales tax. The cigarette sales tax was increased from 2.5 to 3 cents per pack, with the additional revenue dedicated to tobacco research and deposited in the Agency Fund. Also, Kentucky embarked in 1971 upon a program whereby agricultural and horticultural land would be valued, for property taxation, according to value as actually used instead of according to potential value in other uses. This substantially reduced the tax liabilities on such land. However, sale of such land for other uses would cause the levy of full value taxes in the year of sale and additional taxes for two previous years based on the higher value use. An additional change effective in 1971 was the easing of limits on property tax revenue growth by adoption of a more liberal definition of net assessment growth (new property).

The 1972 year brought several tax changes. Food for home consumption (but not restaurant meals) was exempted from the retail sales tax (effective October 1972), and a property tax exemption (the Homestead Exemption) was adopted for the first $6,500 of assessed value of single family homes owned and occupied by a person age 65 years or over. Several tax increases were adopted, the main one being the coal severance tax of 4 percent of gross value of coal extracted, with a minimum tax of 30 cents per ton. Also increased was the motor vehicle fuel tax, from 7 to 9 cents per gallon, and a slight increase in motor vehicle usage tax by expanding the tax base from

90 percent to 100 percent of the retail price. Corporation income tax revenue was increased slightly; an increase in tax base (ending the deduction of federal income tax) more than offset a decrease in tax rate from 7 percent to 5.8 percent.

In 1974, the importance of the Homestead Exemption was increased, mainly by allowing the basic $6,500 exemption to increase (every two years) according to increases in the Consumer Price Index. Pollution control facilities were exempted from most state and local taxes. Also, federal law required abandonment of poll taxes, which previously had played a minor role in local government taxation.

Several tax changes were made in 1976. Largest of these was an increase in the coal severance tax, from 4 percent to 4.5 percent rate and from 30 cents to 50 cents per ton minimum tax. A large number of miscellaneous exemptions were adopted for the retail sales tax, and revenue from the individual income tax was reduced by raising the minimum standard deduction from $500 to $650. Also, the motor vehicle usage tax was changed back to its former version to again apply to only 90 percent of the retail price.

Two other changes in 1976 had virtually no effect on state plus local revenue: the local property tax for school purposes was redefined to become a state tax, without a change in rate; and unmined coal was subjected to the state property tax rate of 31.5 cents but was exempted from local tax rates. The Department of Revenue was ordered to determine the value of all unmined coal in the state. Later, in 1978, unmined coal was effectively exempted from property taxation: the state rate was reduced to one-tenth of one cent, the exemption from local rates was continued, and assessment responsibilities were transferred back to the Property Valuation Administrators (the locally elected tax assessors). Also in 1978, several miscellaneous exemptions were adopted for the retail sales tax.

House Bill 44, adopted by a special legislative session in 1979, brought further restrictions on property tax revenue growth (the 1965 rate rollback was still in effect, although some revenue increase was allowed because of net assessment growth). State property tax revenue could increase only 4 percent per year, regardless of net assessment growth, while local governments could increase revenue from previously taxed real property by no more than 4 percent each year (unless a larger increase was approved by voters), although additional revenue could be obtained from new property. Also in 1979, revenue from the retail sales tax was reduced by exempting purchases for residential use of water, sewer services, and fuel (natural gas, bottled gas, electricity, coal, and wood).

Tax changes adopted in 1980 included two opposing adjustments in the corporation income tax: the increased revenue from rate increases was partially offset by the reduced revenue from adoption of net operating loss carryovers and of special taxation of closely held corporations that resemble partnerships (Subchapter S corporations). The state property tax rate on distilled spirits in storage was reduced from 45 cents to one-tenth of one cent, effective in 1984. Some increase in revenue was provided by taxing wholesalers on alcoholic beverage sales. Also, the petroleum severance tax rate was raised from 0.5 percent to 4.5 percent, and the severance tax was extended to cover minerals in addition to coal and oil (4.5 percent rate). The motor vehicle fuel tax rate was changed from 9 cents per gallon to 9 percent of average wholesale price, with a floor of 9 cents per gallon and limits on annual increases because of price increases. Also, the truck license tax was modified by adoption of a weight-distance tax

The motor vehicle fuel tax was again changed in 1982, with the rate increased from 9 to 10 percent, although the floor remained at 9 cents per gallon. Several minor exemptions were adopted for the retail sales tax. Revenue from the individual and corporation income taxes was reduced by adoption of the federal liberalized depreciation rules, fully for the individual income tax, but only partially for the corporation income tax.

The regular legislative session in 1984 and the special session in 1985 brought several tax changes. The severance tax, which in 1980 had been broadened to include minerals other than coal and oil, was reduced slightly in yield by granting some modifications for the other minerals. Rates were increased for the corporation income and net worth taxes. Also, the yield from the corporation income tax was increased by a further disallowance of the liberalized federal rules on depreciation. The state property tax rate was reduced to one-tenth of one cent on business inventories of raw materials and goods in process. The inheritance tax was reduced in yield by exempting inter-spousal property transfers.

At the local level, school districts were required by the 1984 legislature to levy a minimum property tax rate of 15 cents to qualify for state aid from the Power Equalization program at the existing rate. Later, in the 1985 session, school districts were required to levy a minimum property tax of 25 cents (or its equivalent in property and other taxes) to qualify for the increased levels of Power Equalization to be provided for fiscal years 1987 and 1988. Also, school districts were given expanded taxing powers, being allowed to use up to all three, instead of only one, of the nonproperty taxes established in 1966, again subject to possible voter recall elections.

Another change affected the corporation income and net worth taxes in a manner mainly to redistribute tax burdens instead of to change total revenue yield. These taxes apply to corporations according to the percentage of their business conducted "in Kentucky," and apportionment formulas are used to make this determination. Previously, the Kentucky formula (for both taxes) was one-third each for tangible property, non-executive payroll, and sales by destination. This formula was changed to be 50 percent based on the average of property and payroll in Kentucky, and 50 percent based on sales by destination. The main effect is to reduce tax burdens on corporations according to sales to non-Kentucky customers and to increase tax burdens on corporations according to sales to Kentucky customers.

In summary, the broad picture of taxation in Kentucky has been one of small changes adopted sporadically over a period of several years until a major tax change is adopted, to be followed by another period of few or minor changes until another major tax change is made. Tax reductions are most often made by exemption (causing base erosion) instead of by rate reduction, a practice that is prejudicial to future tax increases insofar as rate increases are less difficult to accomplish than are the abolition of previously granted exemptions. Expanding tax revenue by adopting new types of taxes is generally not an option for Kentucky because its tax system presently uses nearly all of the tax types commonly used throughout the fifty states.

Statistical Analysis of Revenue

Five groups of comparisons are presented for revenue, concerning relative degrees of importance of revenue sources and tax types and how these have changed over the years both in totals and in relative importance. The most commonly used comparisons of tax levels among states are based on taxes per capita (total state and local tax revenue collected in one year divided by the state resident population) and taxes-to-income (total state and local tax revenue expressed as a percentage of total personal income in the state). Ease of comparison over the years is achieved by expressing each of the Kentucky series as percentages of the same series for the fifty-state average.

When compared for a long period of years, these two measures show whether a particular state is generally high, average, or low among the states in available revenue (taxes per capita) and in tax effort (taxes-to-income), and whether its relative position is changing. Tax effort measures the degree to which a government makes use of its taxable economic values, as compared with other states. The two series give slightly different pictures of performance in tax levels and efforts because, for example, two states might be identical in taxes per capita but different in levels of per capita personal income. This would cause the lower income state to appear higher in the taxes-to-income measure, and vice versa for the higher income state. Insofar as income changes are not identically reflected in tax changes, over the years and among states, a state's relative positions in taxes per capita and taxes-to-income may differ from year to year. Generally, however, the two measures give similar pictures of changes over the years. Comparisons based on these two measures are presented in Table 12-B.

In the period 1960 to 1984, Kentucky was consistently below the national average in both measures, but Kentucky's position was much higher for the taxes-to-income measure than for the taxes per capita measure. This

TABLE 12-B
State and Local Tax Revenue Relative to Population and Personal Income, Kentucky and the Average of the 50 States, Fiscal Years 1960-1984

	State and Local Tax Revenue					
	Dollars Per Capita			Percent of Personal Income		
Fiscal Year	Kentucky	50-State Average	Kentucky as a % of 50-State Average	Kentucky	50-State Average	Kentucky as a % of 50-State Average
1960	$119	$ 201	59.2%	7.5%	9.1%	82.5%
1961	147	212	69.3	8.8	9.4	93.5
1962	152	223	68.2	8.6	9.4	91.0
1963	159	235	67.7	8.6	9.6	90.0
1964	165	250	66.0	8.7	9.6	89.7
1965	177	265	66.8	8.6	9.6	89.6
1966	195	290	67.2	8.7	9.7	89.0
1967	213	310	68.7	8.8	9.8	89.6
1968	229	339	67.6	8.8	9.9	88.6
1969	280	381	73.5	9.7	10.3	95.0
1970	299	425	70.4	9.6	10.8	89.2
1971	315	459	68.6	9.6	11.0	87.0
1972	350	520	67.3	9.7	11.5	84.6
1973	400	573	69.8	10.0	11.4	87.6
1974	433	613	70.6	9.6	11.2	85.3
1975	487	656	74.2	10.2	11.2	90.4
1976	533	721	73.9	10.1	11.3	89.4
1977	582	800	72.7	10.0	11.5	87.6
1978	641	872	73.5	10.1	11.2	90.0
1979	714	915	78.5	10.1	10.6	95.1
1980	740	984	75.2	9.7	10.4	93.4
1981	785	1065	73.7	9.2	10.1	90.7
1982	848	1149	73.8	9.3	10.3	90.3
1983	888	1216	73.0	9.5	10.4	91.7
1984	955	1356	70.4	9.3	10.6	87.4

Source: U.S. Department of Commerce, Bureau of the Census, *Governmental Finances*, various years; through the Kentucky Economic Information System.

difference between measures is influenced by Kentucky's below-average position (compared nationally) in per capita personal income and changes over the years in this relative position. Between 1960 and 1984, Kentucky's level of taxation increased relative to the national average, from 59.2 percent to 70.4 percent for taxes per capita, and from 82.5 percent to 87.4 percent for taxes-to-income. But comparing only the first and last years ignores some important changes between those years.

Looking only at the taxes per capita measure, for simplicity, Kentucky's relative position grew from 59.2 percent in 1960 to period highs of 73.5 percent in 1969, 74.2 percent in 1975, and 78.5 percent in 1979, with several years of decline following the peak years. As previously described in the historical section, levels of tax revenue in Kentucky are raised from time to time by major changes in the tax laws. But in the years between, levels of tax revenue tend to decline relative to economic values and to taxation in other states. These relative decreases are partly because of various legislated exemptions (decreases in the tax base), but also because tax levels are increased in other states because of growing expenditure needs. The changing tax levels in other states can influence Kentucky's *relative* tax level. Kentucky's relative level of taxation, in taxes per capita, stabilized during the period 1975 to 1983, allowing for the unusual year 1979 and for small year-to-year variations. But 1984 appears to be unusually low.

Total tax revenue is the largest part of total state and local government revenue, but other sources are important. The largest measure of total revenue commonly reported for state and local government revenue is total general revenue, with general referring to all revenue except that associated with such programs as Unemployment Insurance. Total general revenue is divided into two main categories: own-source revenue (that is, collected by the state and local governments themselves), and federal aid. Own-source revenue is divided into tax revenue, and nontax revenue (charges and miscellaneous, such as sewer service charges, fines, and court fees). Statistics are available to show own-source tax revenue by major tax types. All of these are analyzed.

Table 12-C compares Kentucky and the fifty-state average according to total general revenue and its parts, for 1960, 1965, 1970, 1975, 1980, and 1984, with parts expressed as percentages of total general revenue. Of interest are differences between Kentucky and the fifty-state average in relative importance of the several parts and how these have changed in relative importance over the years. Federal aid is a much larger share of the total in Kentucky than in the average state, in all years shown. Because federal aid and total own-source revenue must add to 100 percent, Kentucky's above-average dependence on federal aid reflects a below-average dependence on own-source revenue. Within own-source revenue, Kentucky is slightly above average in use of nontax revenue and, therefore, generally is slightly below average in use of tax revenue.

Percentages of total own-source tax revenue from particular tax types are shown in Table 12-D, for Kentucky and the fifty-state average, for 1978 and 1980 to 1984. By far the most obvious difference between Kentucky and the average, in use of tax types, is Kentucky's very low revenue yield from property taxes. In 1978, Kentucky obtained 18.2 percent of its tax revenue from property taxes while the fifty-state average was 34.3 percent, a difference of 16.1 percentage points. By 1984, the Kentucky deficiency was smaller but was still 11.9 percentage points. Kentucky's low dependence on property taxes possibly is a reflection of its below-average position both in tax rates and property values per capita, the latter reflecting a below-average concentration of business property.

Because yields of the particular taxes are shown as percentages of total own-source tax revenue, Kentucky's below-average use of property taxes causes its use of other taxes to be shown as larger percentages. Kentucky is above the fifty-state average in income taxes and also in motor vehicle taxes and severance taxes. The general retail sales tax in Kentucky is near-

TABLE 12-C

Relative Importance of Major Revenue Sources of State and Local Governments, Kentucky and the Average of the 50 States, Fiscal Years 1960, 1965, 1970, 1975, 1980, and 1984

(Amounts as Percents of Total State and Local General Revenue)

	Fiscal Years											
	1960		1965		1970		1975		1980		1984	
Revenue Sources	**Kentucky**	**50-State Average**	**Kentucky**	**50-State Average**	**Kentucky**	**50-State Average**	**Kentucky**	**50-State Average**	**Kentucky**	**50-State Average**	**Kentucky**	**50-State Average**
Total General Revenue	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Federal Aid	23.6	13.8	23.2	14.9	22.8	16.7	25.6	20.6	26.8	21.7	22.5	17.9
General Revenue from Own Sources	76.4	86.2	76.8	85.1	77.2	83.3	74.4	79.4	73.2	78.3	77.5	82.1
Non-Tax Revenue	14.7	14.7	16.3	15.8	18.3	16.9	18.8	17.4	19.3	19.8	23.5	23.1
Total Tax Revenue	61.7	71.5	60.5	69.2	58.9	66.4	55.6	62.0	53.8	58.4	54.0	59.0

Source: U.S. Department of Commerce, Bureau of the Census, *Governmental Finances*, various years. Kentucky data are through the Kentucky Economic Information System.

Note: Total General Revenue, less Federal Aid, equals General Revenue from Own Sources, which is divided into Non-Tax Revenue (charges and miscellaneous) and Total Tax Revenue. Revenue other than General Revenue, such as from the Unemployment Insurance programs, is omitted.

TABLE 12-D

Relative Importance of Major Tax Types of State and Local Governments, Kentucky and the Average of the 50 States, Fiscal Years 1978-1984

(Amounts as Percents of Total State and Local General Tax Revenue)

	Fiscal Years											
	1978		1980		1981		1982		1983		1984	
General Revenue Tax Types	Kentucky	50-State Average	Kentucky	50-State Average	Kentucky	50-State Average	Kentucky	50-State Average	Kentucky	50-State Average	Kentucky	50-State Average
General Sales Tax (excludes selective)	22.9	21.4	22.4	23.0	21.9	22.8	21.8	22.7	21.2	22.8	21.2	23.5
Income Taxes (Individual and Corporation)	29.2	22.7	31.2	24.8	31.8	24.8	31.0	24.7	31.1	24.4	31.0	25.5
Property Tax	18.2	34.3	18.3	30.7	18.0	30.7	17.6	30.8	18.0	31.4	18.2	30.1
Motor Vehicle Fuel and License Taxes	10.6	7.6	9.0	7.0	8.2	6.5	8.3	6.4	8.4	6.1	8.4	6.2
Severance Tax	5.5	1.3	6.5	1.9	6.7	2.6	8.2	2.9	6.7	2.6	5.9	2.3

Source: U.S. Department of Commerce, Bureau of the Census, *Governmental Finances* and *State Government Tax Collections*, various years. Kentucky data through the Kentucky Economic Information System.

Note: Tax Revenue other than from general taxes, such as Unemployment Insurance tax revenue, is omitted. Columns do not sum to 100 percent because of omission of several small yield types of general taxes.

ly average in relative importance, being above the fifty-state average in 1978 but slipping to below average in 1980 and continuing below average to 1984. The main cause of Kentucky's above-average use of income taxes, and only average use of general sales tax, is that local governments in Kentucky do not use the retail sales tax (as used by local governments in, for example, Illinois and Tennessee), but instead they use a form of local income tax (the Occupational License tax, which typically is a uniform percentage rate on gross earnings of individuals and net profits of businesses).

Growth of revenue sources, in Kentucky as compared with the fifty-state average, for 1978 to 1984, are shown in Table 12-E for parts of total general

TABLE 12-E

Growth in General Revenue of State and Local Governments, by Sources, Kentucky and the Average of the 50 States, Fiscal Years 1978-1984
(Index Numbers: 1978 = 100)

		Fiscal Years						
Revenue Sources		**1978**	**1979**	**1980**	**1981**	**1982**	**1983**	**1984**
Total General Revenue	Kentucky	100	114	124	131	135	143	162
	50-State Average	100	109	121	134	144	154	172
Federal Aid	Kentucky	100	115	127	137	124	129	139
	50-State Average	100	108	119	130	125	129	139
General Revenue from Own Sources	Kentucky	100	113	123	129	139	149	170
	50-State Average	100	109	121	135	150	161	181
Non-tax Revenue	Kentucky	100	117	143	145	152	169	226
	50-State Average	100	119	144	168	195	213	238
Total Tax Revenue	Kentucky	100	112	117	125	135	142	154
	50-State Average	100	106	115	126	138	147	165
General Sales Tax (excludes selective)	Kentucky	100	113	114	118	129	132	142
	50-State Average	100	112	124	134	146	156	181
Income Taxes (Individual and Corporation)	Kentucky	100	116	125	136	143	152	163
	50-State Average	100	112	126	138	150	158	186
Property Taxes	Kentucky	100	109	118	123	130	141	153
	50-State Average	100	98	103	113	123	134	145
Motor Vehicle Fuel and License Taxes	Kentucky	100	104	100	96	106	113	121
	50-State Average	100	106	105	108	115	120	135
Severance Taxes	Kentucky	100	120	138	152	200	173	164
	50-State Average	100	116	167	256	314	297	291

Source: U.S. Department of Commerce, Bureau of the Census, *Governmental Finances*, various years. Kentucky data through the Kentucky Economic Information System.

Note: Total General Revenue, less Federal Aid, equals General Revenue from Own Sources, which is divided into Non-tax Revenue (charges and miscellaneous) and Total Tax Revenue. Revenue other than General Revenue, such as from the Unemployment Insurance programs, is omitted, as are several low-yield tax types.

revenue and particular tax types. All yearly amounts are expressed as index values based on 1978 equals 100 percent. Of interest is whether the index numbers for a particular revenue type, for Kentucky as compared with the average, have increased to a greater or lesser degree over the years.

Looking first only at 1984, the index values for Kentucky were above the fifty-state average values for only one series (property taxes) and equal to the average in only one series (federal aid). For all other series, Kentucky's 1984 index values were below average. The Kentucky 1984 index values were noticeably low for general sales tax and income taxes, and they were especially low for severance taxes. Changes from year to year can also be analyzed from the table, but a much clearer interpretation is presented in Table 12-F wherein the Kentucky index values from Table 12-E are expressed as percentages of the fifty-state average index values.

As thus converted into *relative* index numbers, the Kentucky values that are larger than 100 indicate that Kentucky's revenue from that source has increased, since 1978, at a greater rate than was the case for the fifty-state average. Vice versa, the relative index numbers for Kentucky that are below 100 indicate that Kentucky's revenue growth from that source has been below the fifty-state average since 1978. Most of the Kentucky relative index values in Table 12-F are less than 100, which shows again that nearly all of the revenue series have grown slower in Kentucky than on the average nationally, since 1978. The exceptions are property taxes, where Kentucky improved relative to the average, and federal aid, where Kentucky remained about average. In both of these series, however, Kentucky showed a decline from

TABLE 12-F

Growth in Kentucky General State and Local Government Revenue, Fiscal Years 1978-1984
(Kentucky Growth as a Percentage of U.S. Growth, 1978 = 100)

	1978	1979	1980	1981	1982	1983	1984
Total General Revenue	100.0%	104.6%	102.5%	97.8%	93.8%	92.9%	94.2%
Federal Aid	100.0	106.5	106.7	105.4	99.2	100.0	100.0
General Revenue from Own Sources	100.0	103.7	101.7	95.6	92.7	92.5	93.9
Non-tax Revenue	100.0	98.3	99.3	86.3	77.9	79.3	95.0
Total Tax Revenue	100.0	105.7	101.7	99.2	97.8	96.6	93.3
General Sales Tax (excludes selective)	100.0	100.9	91.9	88.1	88.4	84.6	78.5
Income Taxes (Individual and Corporation)	100.0	103.6	99.2	99.6	95.3	96.2	87.6
Property Taxes	100.0	111.2	114.6	108.9	105.7	105.2	105.5
Motor Vehicle Fuel and License Taxes	100.0	98.1	95.2	88.9	92.2	94.2	89.6
Severance Taxes	100.0	105.3	81.7	59.4	63.7	58.2	56.4

Source: The data displayed in this table are the result of taking the values for Kentucky shown in Table 12-E and computing them as a percentage of the value for the U.S. shown in Table 12-E.

a relatively high position in 1979-81. The above-average growth of state plus local property tax revenue in Kentucky, since 1978, is a reflection of the property tax growth limitation legislation in Kentucky and other states and the perhaps slightly less limiting nature of that legislation in Kentucky than in the other states, since 1978.

The revenue comparisons presented above show that Kentucky occupies a low and somewhat deteriorating position among the states in the raising of tax revenue. But these comparisons do not show how much of Kentucky's below-average position in tax revenue collection results from below-average economic and taxable values (tax capacity) and how much stems from a below-average degree of use of its taxable capacity (tax effort). Several methods are available for helping in this determination, although readers are cautioned that the findings of such comparisons are not as accurate or precise as the numerical results imply. Many compromises of definition and data adequacy are made in such studies. A very simple method is the "average effort" or "potential yield" method developed in the early 1960s at the University of Kentucky by James W. Martin and Kenneth E. Quindry, which compares one state with the fifty-state average using total personal income as the common denominator for most tax types. Much more elaborate are studies made by the Advisory Commission on Intergovernmental Relations (ACIR), a federal agency. Because the ACIR study published in May 1985 was for 1982 as the latest year, the average-effort method is also applied to 1982 data to allow a comparison of results of the two methods.

Table 12-G illustrates a simplified version of the Martin-Quindry average-effort method for indicating how a particular state's taxation compares with that of the fifty-state average, both in total and for particular tax types. Total tax revenue of all state and local governments in the nation is expressed as a percentage of total personal income in the nation, providing a total rate of taxation relative to personal income. Kentucky total personal income is multiplied by the 50-state average percentage to determine the amount of total tax revenue that would be produced in Kentucky if its tax revenue bore the same percentage relation to personal income as in the average of the fifty states. This amount is labeled potential- or average-effort yield. The same procedure is used for each tax type, providing a fifty-state average tax rate (relative to total personal income), for each tax type. Kentucky total personal income is multiplied by each of these percentages to produce the total tax revenue yield, for each tax type, that would result if Kentucky's taxes bore the same percentage relation to personal income as in the average of the fifty states. These tax revenue amounts, shown in Table 12-G, are the second column, labeled Potential Yield. Actual Yield (first column) and Potential Yield can be compared to determine how far the tax levels in Kentucky are above or below those in the fifty-state average.

TABLE 12-G

Actual and Potential Yield of State and Local Taxes, Kentucky and the 50 States, Fiscal Year 1982[a]

	Kentucky				50 States	
	Total State and Local Tax Revenue (Millions of Dollars)				Total State and Local Tax Revenue (Millions of Dollars)	
Tax Type	Actual Yield	Potential Yield[b]	Potential Less Actual	Actual as % of Potential Yield	Actual Yield	Tax Type as % of Total
General Sales (excludes selective)	$ 682.6	$ 788.3	$105.7	86.6%	$ 60,583.	22.8%
Income: Individual and Corporation	969.5	856.4	(113.1)	113.2	65,818.	24.7
Property	549.9	1,065.9	516.0	51.6	81,918.	30.8
Motor Vehicle Fuel and License	259.6	215.4	(44.2)	120.5	16,557.	6.2
Severance	256.8	101.9	(154.9)	252.0	7,830.	2.9
All Other Taxes[c]	411.5	437.1	25.6	94.1	33,593.	12.6
Total General Tax Revenue	3,129.9	3,465.0	335.1	90.3	266,299.	100.0

Source: U. S. Department of Commerce, Bureau of Economic Analysis, and Bureau of the Census, *Governmental Finances*, 1981-82; through the Kentucky Economic Information System.

Notes

[a] Fiscal Year 1982 was selected so as to be comparable with the ACIR comparisons shown in Tables 12-H and 12-I.

[b] Potential tax yield, sometimes referred to as average-effort tax yield, is the total Kentucky tax revenue that would be produced *if* total tax yield were the same percentage of total personal income in Kentucky as is true for the total of all state and local governments in the nation. Total state and local tax yield in the nation in fiscal year 1982 was $266,299.1 million, which was 10.3386652 percent of total U.S. personal income of $2,575,759 million. Kentucky personal income of $33,515 million, multiplied by 10.3386652 percent, gives potential yield of $3,465.0 million for fiscal year 1982. Potential Kentucky yield for each tax type is computed by distributing the total potential yield among the various tax types in the same percentages shown for the total tax yield of state and local governments in the 50 states. For example, property tax yield was 30.762 percent of total tax yield nationally. The Kentucky potential yield of $3,456.0 million, multiplied by 30.762 percent, gives $1,065.9 million as the potential yield for property tax in Kentucky. Actual property tax yield in Kentucky was only $549.9 million in 1982, suggesting unused property tax potential of $516.0 million. Also, actual property tax yield was only 51.6 percent of potential yield in Kentucky in that year. Because some Kentucky tax types have actual yields larger than potential yields, the total of unused tax potential ($335.1 million) is the sum of the positive and negative amounts for the various tax types. Total unused potential yield is also the total potential yield less the actual yield ($3,465.0 − $3,129.9 = $335.1 million).

[c] Main components of the "All Other Taxes" category are such selective sales and license taxes as on cigarettes, alcoholic beverages, insurance premiums, and public utility services.

Kentucky's total tax revenue in 1982 was only 90.3 percent of what it would have been if tax effort had been at the fifty-state average. This suggests that $335.1 million of potential revenue was foregone in that year. For particular tax types, Kentucky had great unused tax potential in property taxation, with actual yield only 51.6 percent of potential yield. Kentucky was also below average in general sales tax (86.6 percent of potential). Above-average effort was made in income taxes (113.2 percent of potential), motor vehicle fuel and license taxes (120.5 percent of potential), and severance taxes (252 percent of potential).

The ACIR study (see Tables 12-H and 12-I) uses the Representative Tax System (RTS) method which, essentially, is a set of tax base definitions and tax rates that reflects the average for all taxes used by state and local governments in the nation. The method is similar to the Martin-Quindry method but is much more elaborate. Instead of determining the national average property tax merely by expressing total property tax revenue as a percentage of total personal income, an elaborate study is made of the amounts, types, and values of property subject to tax in the fifty states and of how total property tax revenue relates to these property values. Thus, the average property tax rate is related to property, in the ACIR method, instead of to total personal income as in the Martin-Quindry method. Similarly for other tax types, the RTS method uses an average of the actual items taxed, such as number of motor vehicles, gallons of fuel, packages of cigarettes, and dollars of general retail sales.

The Representative Tax System (RTS), constructed as described above and applied to the economic data of each state, determines the dollars of

TABLE 12-H

Comparison of Indexes of Tax Capacity and Tax Effort
State and Local Governments: Kentucky, Tennessee, Georgia
Fiscal Years 1967, 1975, 1977, 1979, 1980, 1981, and 1982

	Kentucky		Tennessee		Georgia	
Fiscal Year	Capacity Index	Effort Index	Capacity Index	Effort Index	Capacity Index	Effort Index
	(Amounts are Percents of 50-state average)					
1967	80%	85%	78%	87%	80%	92%
1975	85	84	84	79	86	89
1977	83	84	83	82	84	89
1979	85	87	81	87	81	96
1980	83	89	79	84	82	96
1981	82	88	79	87	81	97
1982	82	88	77	86	84	96

Source: Advisory Commission on Intergovernmental Relations, *1982 Tax Capacity of the Fifty States*, May 1985; and *Significant Features of Fiscal Federalism*, 1984 edition.

TABLE 12-I
Relative Use of Tax Types of State and Local Governments
Kentucky, Tennessee, Georgia and the Average of the 50 States, Fiscal Year 1982

	Indexes of State and Local Government Taxes, 1982								
	Kentucky			Tennessee			Georgia		
General Tax Types	Capacity Index	Effort Index	Capacity[c] Times Effort	Capacity Index	Effort Index	Capacity[c] Times Effort	Capacity Index	Effort Index	Capacity[c] Times Effort
	(Amounts are Percents of 50-state average)								
Total Taxes	81.8%	88.5%	72.4%	77.4%	85.5%	66.2%	83.7%	95.8%	80.2%
General Sales	86.6	81.9	70.9	86.2	139.6	120.3	92.7	99.9	92.6
Selective Sales, Total	100.1	81.5	81.6	99.1	96.1	95.2	99.3	100.4	99.7
Licenses, Total	102.0	61.0	62.2	93.5	122.7	114.7	96.2	38.9	37.4
Individual Income	70.7	140.5	99.3	75.1	5.8	4.4	77.9	122.9	95.7
Corporation Income	95.0	76.3	72.5	76.8	92.9	71.3	82.8	91.9	76.1
Property, Total[a]	71.4	59.1	42.2	70.4	77.4	54.5	83.0	84.0	69.7
Residential Property	56.9	—	—	69.1	—	—	80.3	—	—
Farm Property	110.7	—	—	79.2	—	—	64.1	—	—
Business Property	90.8	—	—	82.0	—	—	80.9	—	—
Public Utility Property	89.8	—	—	36.9	—	—	121.9	—	—
Estate and Gift	56.1	140.0	78.5	60.4	101.9	61.5	51.8	42.9	22.2
Severance, Total	111.6	166.5	185.8	8.1	17.7	1.4	4.4	0.0	0.0
Motor Vehicle Fuel[b]	107.3	111.9	120.1	117.0	112.9	132.1	116.4	116.8	136.0
Motor Vehicle License[b]	112.2	53.6	60.1	100.5	109.0	109.5	102.0	34.0	34.7

Source: Advisory Commission on Intergovernmental Relations, *1982 Tax Capacity of the Fifty States*, May 1985, p. 35.

Notes

[a] The ACIR publication does not show tax effort indexes for the separate parts of property taxation.

[b] Motor Vehicle Fuel tax is part of the total for Selective Sales taxes, and Motor Vehicle License tax is part of the total for Licenses.

[c] Capacity Times Effort was not computed by ACIR but was calculated by multiplying the capacity index number by the effort index number.

tax revenue, both in total and by tax types, that would be collected in each state if the RTS were used. These dollar amounts are converted to a more convenient form by dividing by population to get per capita amounts and then by expressing each state's per capita amounts as percentages of the corresponding per capita amounts for the fifty-state average. This creates an *index of tax capacity*. The national average in each index series (one for each tax type and for the total) is 100. An individual state's index value is below 100 if its RTS yield is less than the national average (low tax capacity) or above 100 if its RTS yield is more than the national average (high tax capacity). The reason why a particular state's RTS yield might be below average (index of 80, for example) is that the various per capita economic values for that state are well below the national average.

To allow a comparison between tax capacity and tax effort, an *index of tax effort* is computed by expressing each state's actual tax yield (total and by types) as a percentage of its RTS yield (total and by types). If, for example, a particular state had a property tax capacity index value of 70 and its property tax effort index value was 60, these results would suggest that the state not only had low property values per capita but also had low tax rates, many exemptions, and/or low assessed values relative to market values of property.

Both the ACIR capacity and effort indexes are shown for Kentucky, Tennessee, and Georgia in Table 12-H, for total taxes for 1967, 1975, 1977, and 1979 to 1982. Detail as to tax types is presented for the three states in Table 12-I, but for only one year—1982. For total taxes in Table 12-H, Kentucky was below average in tax capacity but usually was higher in the effort index than in the capacity index. Comparing Kentucky with Tennessee and Georgia, all three states were higher in the effort index than in the capacity index for most of the years shown. Tennessee was lower than Kentucky in tax capacity while Georgia was about the same as Kentucky in tax capacity, for the years shown. Georgia's tax effort not only was much higher than that of Kentucky and Tennessee in the years shown but reached 97 percent of the national average in 1981. Kentucky's highest effort was 89 percent in 1980 and Tennessee's highest effort was 87 percent in 1967, 1979, and 1981.

The comparisons of tax capacity and effort indexes for 1982, presented in Table 12-I for Kentucky, Tennessee, and Georgia, show detail for tax types. Looking first at the Kentucky index values, the capacity index for total taxes is 81.8. Capacity index values for particular tax types are below the Kentucky value for total taxes (81.8) for only three major tax types: individual income (70.7); total property (71.4); and estate and gift (56.1). All of the other major Kentucky tax types have capacity index values above the Kentucky value for total taxes. A different picture is shown by the Kentucky *effort* indexes, where the total index is 88.5. Six of Kentucky's major tax types had effort indexes below the state total effort index: general sales (81.9), total selective sales (81.5), total licenses (61), corporation income (76.3), total property (59.1), and motor vehicle license (53.6). On the other hand, Kentucky effort indexes were above the state average for only four major tax types: individual income (140.5), estate and gift (140), severance (166.5), and motor vehicle fuel (111.9).

Comparing the Kentucky results in Table 12-I with those in Tables 12-D and 12-G, the ACIR results, being more elaborate and basically more sound, reveal that Kentucky is low in effort for motor vehicle license tax, but higher (relative to the total effort) in motor vehicle fuel tax. Also, Kentucky's effort in individual income tax is shown to be high compared not only with the Kentucky total effort but also with Kentucky's capacity in individual income taxation. Low effort, relative to capacity, is shown for general sales tax and to a greater degree for corporation income tax. Finally, the effort index for total property is noticeably lower than the capacity index, suggesting that the reason for Kentucky's low values of property tax revenue per capita are caused not only by low property values per capita (low capacity index) but also by an effort index (59.1) that is lower than the capacity index (71.4)

The Tennessee and Georgia indexes in Table 12-I show interesting differences from Kentucky. Tennessee emphasizes the general sales tax but makes little use of individual income taxes, while Georgia is about average nationally in both taxes. Tennessee makes high effort in license taxes while Kentucky and especially Georgia make low effort for those taxes. Severance tax capacity and effort are much higher for Kentucky than for Tennessee and Georgia because of major differences in coal deposits not offset by other mineral deposits. Effort for motor vehicle license tax is high in Tennessee but low in Kentucky and Georgia. Both Tennessee and Georgia are higher in property tax effort than is Kentucky, and both have higher effort indexes than capacity indexes for property tax whereas the opposite is true for Kentucky. Finally, the effort indexes differ widely for estate and gift taxes, with Kentucky unusually high and Georgia unusually low.

Summarizing the statistical analysis of taxation, Kentucky has total taxable capacity of only about 82 percent of the fifty-state average. It has tax effort of only about 90 percent of its capacity. This means that it actually collects only about $73 relative to $100 in the average state (based on the average results of the two methods for computing tax capacity). Using the Martin-Quindry method, Kentucky's total potential for 1982 was only about 82 percent that of the average state because its per capita personal income in 1982 was only about 82 percent of national per capita personal income (see Table 3-A). Kentucky used only 90 percent of its tax potential (see Table 12-G), meaning that Kentucky collected only about $72 (90 percent of 82 percent) per $100 collected in the average state. If the same tax rates and definitions were used in Kentucky as in the average of the fifty states, related to personal income, the yield in Kentucky would be $82 for each $100 for the average state. But Kentucky did not actually collect that much revenue because its tax effort was only 90.3 percent of its tax capacity. Multiplying 90.3 percent and 81.7 percent, the actual 1982 total tax yield in Kentucky was only $74 per $100 of tax yield for the average of the fifty states. This $74 amount is essentially the amount shown in Table 12-B as Kentucky taxes per capita as a percentage of the fifty-state average (73.8 for 1982).

The ACIR method gives similar results for 1982 for total taxes: Kentucky's capacity index of 82, multiplied by its effort index of 88, suggests an actual amount of 72. That is, for each $100 of tax capacity on the average for the fifty states, Kentucky's low taxable capacity would produce only $82 if its tax rates and definitions were identical to the Representative Tax System. But Kentucky in fact raised only $72 because its tax effort was only 88 percent. These two methods suggest that, in 1982, Kentucky had only about $73 dollars of tax revenue to spend for each $100 of tax revenue available for spending in the average of the fifty states. Moreover, the 1984 revenue data suggest that this amount has declined to about $70 (Table 12-B).

Selected from the various revenue tables are several interesting relationships that can better be illustrated pictorially. Figure 12-A shows recent trends in Kentucky's relative performance in tax revenue and personal income. Clearly shown is the greater recent decline in relative performance in taxation than in income. The next two figures show differences between Kentucky and the fifty states in major revenue sources (Figure 12-B) and types of taxes (Figure 12-C). Note Kentucky's above-average dependence on federal aid and the income taxes and its below-average use of property taxation. The ACIR's Representative Tax System comparisons are presented in Figure 12-D. The tax potential for the average state is shown as $100 in each case. Kentucky's potential yield (if it used the Representative Tax System) is about $82 for total taxes because its economic values are below average; Kentucky's actual yield for total taxes is about $72 because its tax rates are below average. Figure 12-E shows degrees of change from 1978 to 1981 and to 1984 in the major revenue sources and tax types. The rate of growth in Kentucky is shown as a percentage of the 50-state average which is shown as 100 percent. For total general revenue, Kentucky's growth was below average for the period 1978 to 1981 and was even more below average for the period 1978 to 1984. Kentucky had above-average growth in federal aid between 1978 and 1981 and in property tax between 1978 and both 1981 and 1984. Various degrees of below-average growth are shown in nearly all other cases.

Figure 12–A

Personal Income and Tax Revenue Per Capita and Taxes as Percentages of Personal Income

(Kentucky as Percent of 50 State Average)

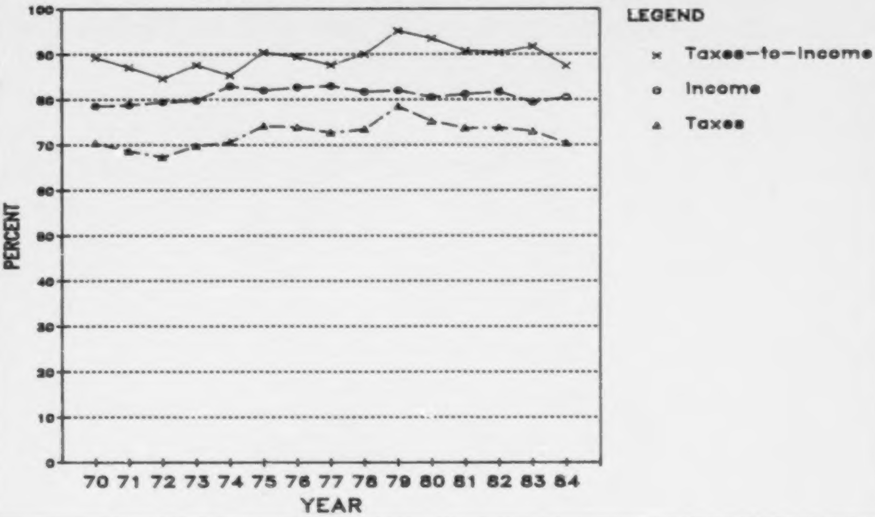
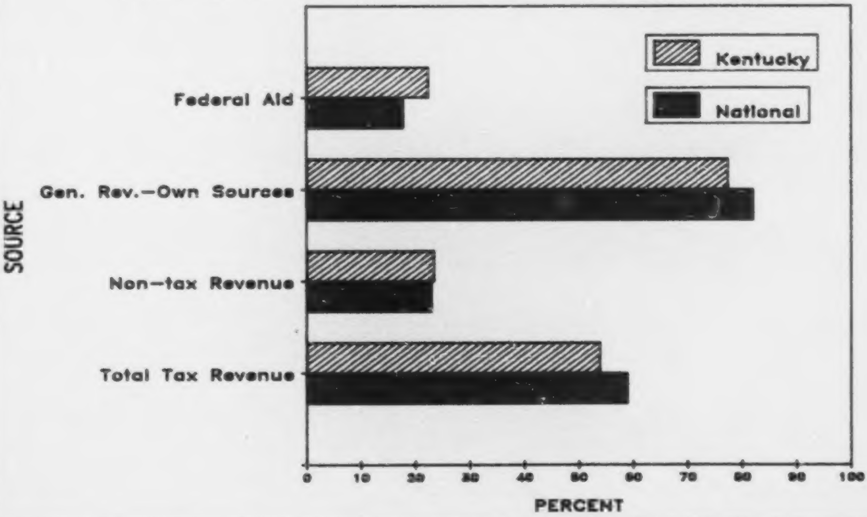


Figure 12–B

Relative Importance of Major Revenue Sources

State & Local Governments– Ky & 50 State Average, 1984

(Amounts as Percents of Total General Revenue)



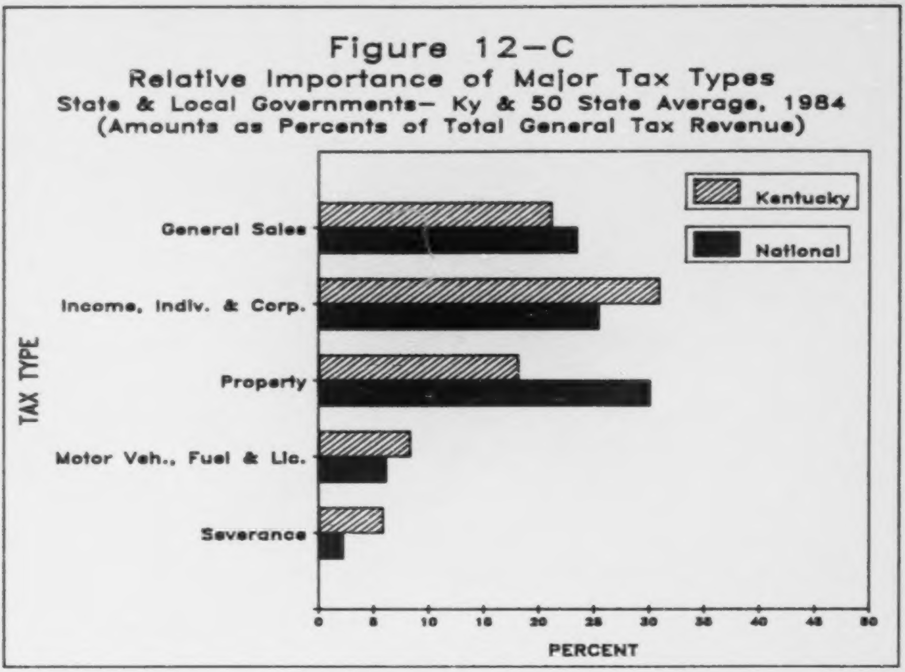


Figure 12—C
Relative Importance of Major Tax Types
State & Local Governments— Ky & 50 State Average, 1984
(Amounts as Percents of Total General Tax Revenue)

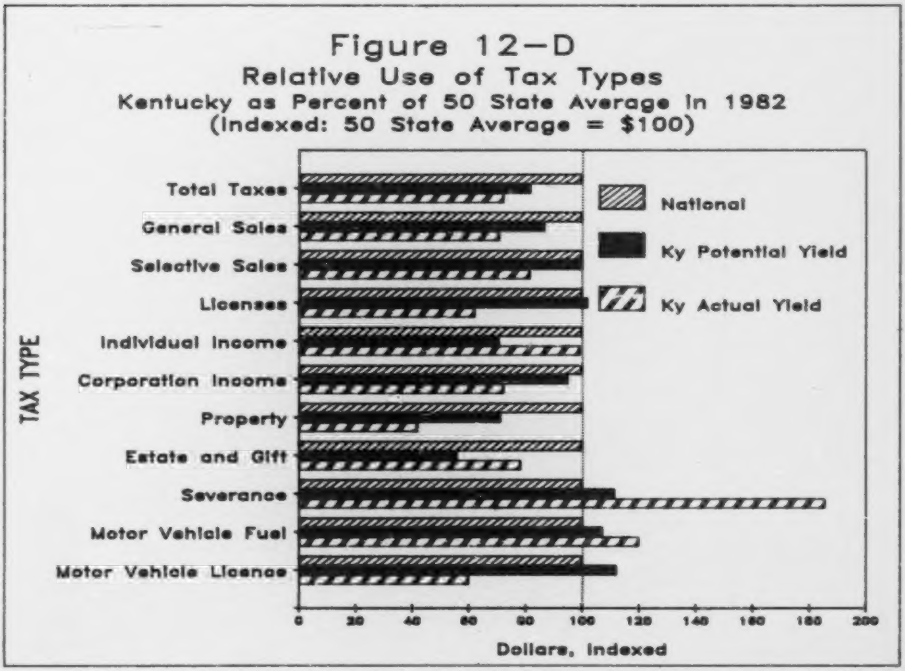


Figure 12—D
Relative Use of Tax Types
Kentucky as Percent of 50 State Average in 1982
(Indexed: 50 State Average = $100)

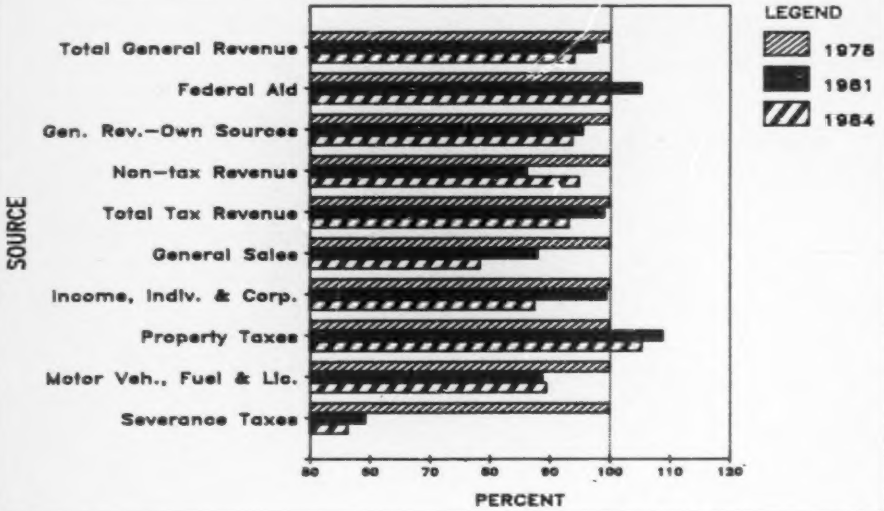


Figure 12—E
Growth In Kentucky General Revenue
State and Local Governments
(Kentucky Growth as % of U.S. Growth, 1978=100)

13. Expenditures of State and Local Governments

A comparison of state and local government expenditure trends in Kentucky and selected other states is presented in terms of per capita amounts of direct general expenditures. The U.S. Bureau of the Census defines governmental *expenditures* as all money paid out by a government, except for debt retirement and miscellaneous correcting items, such as tax refunds. (For more complete definitions of all the expenditure terms used in this section, consult the Glossary at the end of Part II.) While expenditures, as defined, suggest the amount spent for general government services, two adjustments are necessary. The first is to subtract several types of expenditures that are not of the general government nature, such as expenditures by governmentally-owned businesses (utility companies, liquor stores, etc.) and the various trust funds (such as Unemployment Insurance). Making these adjustments refines expenditures down to *general* expenditures.

Another adjustment is necessary because one government might pay out funds to another government which spends the funds. Double counting would result if both outpayments were counted as expenditures. Removing intergovernmental transfers results in *direct general* expenditures. Because the comparisons in this study are for state plus local governments, the intergovernmental transfers between state and local governments are offsetting. Consequently, *direct general expenditures* are total outpayments of state plus local governments for general governmental purposes.

It should be understood that direct general expenditures are typically much larger than total tax revenue in a year, for several reasons. First, state and local governments receive federal aid, the spending of which is included in their direct general expenditures. Second, spending of borrowed funds is included in these expenditures. Third, some own-source revenue is from charges and miscellaneous sources (nontax revenue). On the other hand, revenue used to retire debt is not counted as an expenditure.

To illustrate the excess of expenditures over total tax revenue, Table 13-A compares per capita expenditures and own-source tax revenue. Expenditures are consistently higher than tax revenue, ranging from the high ratio of 2 to 1 in Kentucky in 1980 to a low ratio of 1.43 to 1 for the fifty-state average in 1960. All three states shown (Kentucky, Tennessee, and Georgia) had larger ratios than the fifty-state average for all of the years shown. Differences among states and over the years mainly reflect differences and changes in the importance of federal aid, state and local debt financing, and debt retirement.

Expenditures per capita are shown in Table 13-B for Kentucky, Tennessee, Georgia, and the fifty-state average for 1960, 1965, 1970, 1975, 1980, and 1984. In addition to dollar amounts, the three individual state amounts are expressed as percentages of the fifty-state average. Expenditure levels in all three states are below the national average in all years shown. General-

TABLE 13-A

Per Capita Direct General Expenditures and Taxes, and the Ratio of Expenditures to Taxes—State and Local Governments
Kentucky, Tennessee, Georgia, and the Average of the 50 States
Selected Fiscal Years, 1960-1984

	Kentucky			Tennessee			Georgia			50-State Average		
Fiscal Year	Expenditures Per Capita	Taxes Per Capita	Expenditures/ Taxes	Expenditures Per Capita	Taxes Per Capita	Expenditures/ Taxes	Expenditures Per Capita	Taxes Per Capita	Expenditures/ Taxes	Expenditures Per Capita	Taxes Per Capita	Expenditures/ Taxes
1960	$ 199	$119	1.67	$ 217	$134	1.62	$ 222	$ 141	1.57	$ 288	$ 201	1.43
1965	311	177	1.76	286	181	1.58	312	192	1.63	385	265	1.45
1970	534	299	1.79	496	278	1.78	545	311	1.75	644	425	1.52
1975	820	487	1.68	844	443	1.91	900	495	1.82	1065	656	1.62
1980	1477	740	2.00	1290	656	1.97	1361	767	1.77	1617	984	1.64
1984	1717	955	1.80	1591	878	1.81	1826	1073	1.70	2131	1356	1.57

Source: U.S. Department of Commerce, Bureau of the Census, *Governmental Finances*, various years. Kentucky data through the Kentucky Economic Information System.

TABLE 13-B
Direct General Expenditures of State and Local Governments Per Capita and as a Percent of the Average of the 50 States Kentucky, Tennessee, and Georgia, Selected Fiscal Years 1960-1984

	Direct General Expenditures of State and Local Governments						
	Per Capita				Percent of 50-State Average		
Fiscal Year	Kentucky	Tennessee	Georgia	50-State Average	Kentucky	Tennessee	Georgia
		(Dollars)				(Percent)	
1960	$ 198.6	$ 216.9	$ 222.0	$ 288.2	68.9%	75.2%	77.0%
1965	311.4	286.2	311.9	385.3	80.8	74.3	81.0
1970	533.8	495.7	545.2	643.8	82.9	77.0	84.7
1975	820.2	843.9	900.4	1064.9	77.0	79.2	84.6
1980	1476.7	1290.2	1361.3	1616.8	91.3	79.8	84.2
1984	1717.0	1591.0	1825.8	2131.1	80.6	74.7	85.7

Source: U.S. Department of Commerce, Bureau of the Census, *Governmental Finances*, various years. Kentucky data through the Kentucky Economic Information System.

ly, the expenditure level is highest in Georgia and lowest in Tennessee, with Kentucky in between, although with considerable variation over the years shown. Fluctuations within the period are greatest for Kentucky (22.4 percentage points between low and high years) as compared with 5.5 points for Tennessee and 8.7 points for Georgia. Kentucky's larger degree of variation over the years probably is the result of debt financing because the other three sources of funds for total expenditures (own-source tax and nontax revenue, and federal aid) are relatively stable from year to year.

Breakdowns of expenditures by types of governmental activities are presented in Table 13-C for the three years 1975, 1980, and 1984. Amounts are per capita expenditures for Kentucky and the fifty-state average. Also, the Kentucky expenditures are shown as percentages of the average. Looking first at the 1975 amounts, the Kentucky total is only 77 percent of the fifty-state average. If only tax revenue were available for spending, Kentucky's relative spending level would have been about 74 percent (based on taxes per capita of 74.2 percent in 1975, from Table 12-B). But spending of federal aid, borrowed funds, and revenue from charges and miscellaneous sources raised Kentucky's relative expenditure level to 77 percent of the fifty-state average. This means that, on the average, in 1975 Kentucky spent only $77 for each $100 spent by the average of the fifty states.

Among the several expenditure categories and subcategories shown in Table 13-C, it is interesting to ask which are high and which are low, compared with one or more benchmarks. Two possible benchmarks are: Kentucky total expenditures per capita as a percentage of the fifty-state average (77 percent), and the fifty-state average of expenditures per capita (100 percent). The 1975 data for expenditures per capita show two major categories

TABLE 13-C

Per Capita Direct General Expenditures, by Specific Services, State and Local Governments—Kentucky and the Average of the 50 States Fiscal Years 1975, 1980, and 1984

	Expenditures Per Capita								
	1975			1980			1984		
Type of Service	Kentucky	United States	Kentucky as % of U.S.	Kentucky	United States	Kentucky as % of U.S.	Kentucky	United States	Kentucky as % of U.S.
	(Dollars Per Capita)		(Percent)	(Dollars Per Capita)		(Percent)	(Dollars Per Capita)		(Percent)
Education, Total	$326.8	$ 407.7	80.1%	$ 506.3	$ 586.3	86.4%	$ 608.7	$ 745.7	81.6%
Local Schools	199.2	285.3	69.8	314.1	409.0	76.8	371.6	511.9	72.6
Institutions of Higher Education	99.4	100.7	98.7	149.2	149.3	99.9	187.3	201.6	92.9
Other	28.2	21.7	130.0	43.0	28.0	153.6	49.8	32.2	154.7
Public Welfare	95.7	126.2	75.8	177.1	200.5	88.3	222.7	274.0	81.3
Health and Hospitals	50.5	87.5	57.7	91.3	141.6	64.4	105.8	196.6	53.8
Highway Transportation	118.4	104.5	113.3	268.2	146.6	182.9	207.8	167.3	124.2
Police and Fire	37.1	55.0	67.5	55.9	84.6	66.1	73.8	116.3	63.5
Corrections	n/a	n/a	n/a	23.8	28.4	83.7	31.2	47.0	66.4
Resources, Parks, Recreation	n/a	n/a	n/a	47.6	52.9	89.8	60.7	66.8	90.9
Sewerage	17.5	24.4	71.5	27.9	43.5	64.1	32.8	48.8	67.2
Housing and Urban Renewal	n/a	n/a	n/a	23.0	26.7	86.2	34.5	39.3	87.8
Financial Administration and General Control	22.1	40.1	55.2	47.7	67.9	70.3	77.6	95.3	81.4
Interest on General Debt	40.2	40.8	98.7	97.9	64.9	150.8	141.4	121.5	116.4
All Other	112.1	178.8	62.7	110.2	172.9	63.8	120.0	212.7	56.4
Total Direct General Expenditure	$820.2	$1064.9	77.0%	$1476.7	$1616.8	91.3%	$1717.0	$2131.1	80.6%

Source: U.S. Department of Commerce, Bureau of the Census, *Governmental Finances*, various years. Kentucky data through the Kentucky Economic Information System.

Note: For Kentucky, the Other Education subcategory includes funds expended on vocational education. For the standard definitions of the categories and subcategories, please consult the Glossary.

above the Kentucky average: highway transportation (113.3 percent) and interest on general debt (98.7 percent). Also, two subcategories are above the Kentucky average: institutions of higher education (98.7 percent) and other education (130.1 percent). Thus, four categories or subcategories of expenditures per capita were above the 1975 Kentucky average: highway transportation, interest on general debt, institutions of higher education, and other education. Two of these groups (highway transportation and other education) were also above the fifty-state average (100 percent). All of the other expenditure groups were below not only the fifty-state average but also the Kentucky average.

Much the same picture is shown by the 1980 and 1984 statistics in Table 13-C, although the percentages of the fifty-state average are especially high for other education, highway transportation, and interest on general debt in 1980, and for other education in 1984. Because these several categories and subcategories are unusually high, further analysis is presented.

Table 13-D shows per capita expenditures for institutions of higher education, highway transportation, and interest on general debt for Kentucky, Tennessee, and Georgia for each year from 1961 to 1984. All amounts are percentages of the fifty-state average. Because expenditures can vary widely between years, mainly because of debt financing and federal aid, a 24-year comparison period is used as a way to suggest the long-run relationships. The relative amounts for Kentucky are higher than those for the two other states in all three categories in all of the 24 years, except as follows: highway transportation was larger in Tennessee in 1961, 1965, and 1966, and in Georgia in 1982; and interest on general debt was larger in Georgia in 1961 and 1965. The excess of the Kentucky relative amounts over the Tennessee and Georgia amounts, for some years and categories, is quite large, such as: institutions of higher education in 1962-1964; highway transportation in 1968-1973; and interest on general debt in 1966-1975 and 1978-1984. Note that the use of revenue for debt repayment is not shown as an expenditure as defined by the Bureau of the Census. But that data would likely reflect the interest expenditure series. Also note that Kentucky's relatively high position in expenditures for institutions of higher education declined in the 1980s.

Educational expenditures, in total and for three groups (local schools, institutions of higher education, and other education) are shown in Table 13-E for Kentucky and the fifty-state average for each of the 24 years 1961 to 1984. Expenditures are shown as dollars per capita and Kentucky amounts as percentages of the average amounts. Kentucky's relative position in total educational expenditures has varied over the 24-year period from a low of 73.7 percent in 1961 to a high of 88.6 percent in 1979, but with the performance in the 1980s being at the low 80 percent level. Within total education, the most important relationship shown is the wide difference between

TABLE 13-D

Per Capita Direct General Expenditures of State and Local Governments for Selected Services
Kentucky, Tennessee, and Georgia, Fiscal Years 1961-1984

Fiscal Year	Amounts as Percents of 50-State Averages								
	Institutions of Higher Education			Highway Transportation			Interest on General Debt		
	Kentucky	Tennessee	Georgia	Kentucky	Tennessee	Georgia	Kentucky	Tennessee	Georgia
					(Percent)				
1961	83%	60%	68%	87%	96%	82%	66%	60%	70
1962	113	62	66	122	104	92	99	62	69
1963	109	60	65	143	106	93	108	72	78
1964	105	61	59	118	110	76	107	71	73
1965	91	66	71	105	108	79	62	59	84
1966	96	79	75	108	114	80	106	75	77
1967	112	88	71	121	104	82	120	83	75
1968	103	79	83	137	86	79	137	79	79
1969	112	87	87	138	93	67	127	80	83
1970	114	83	92	118	96	77	124	86	84
1971	94	75	90	125	93	78	132	92	80
1972	96	74	86	141	91	81	126	82	75
1973	100	76	82	139	94	94	110	82	71
1974	97	82	83	118	102	89	100	79	68
1975	100	89	80	114	105	99	100	73	69
1976	102	80	76	120	115	90	89	73	64
1977	95	78	75	124	107	88	95	73	61
1978	97	91	76	144	105	112	103	78	63
1979	106	83	88	179	105	108	127	79	62
1980	100	82	74	182	102	102	150	77	58
1981	94	81	77	146	96	91	120	83	58
1982	87	70	78	118	84	121	127	77	53
1983	89	81	79	121	87	103	116	81	56
1984	93	78	85	124	95	83	116	75	57

Source: U.S. Department of Commerce, Bureau of the Census, *Governmental Finances*, various years.

Note: Figures for Kentucky differ slightly from those reported in Table 13-E. Whereas per capita expenditures in Table 13-E reflect revisions in population data, the above figures are taken directly from Governmental Finances in the years reported and do not reflect current revised population data.

TABLE 13-E

Per Capita Direct General Expenditures of State and Local Governments, by Types of Education Expenditures Kentucky and the Average of the 50 States—Fiscal Years 1961-1984

	Expenditures Per Capita											
	Total Education			Local Schools			Institutions of Higher Education			Other Education		
Fiscal Year	Kentucky (Dollars)	United States (Dollars)	Kentucky as % of U.S. (Percent)	Kentucky (Dollars)	United States (Dollars)	Kentucky as % of U.S. (Percent)	Kentucky (Dollars)	United States (Dollars)	Kentucky as % of U.S. (Percent)	Kentucky (Dollars)	United States (Dollars)	Kentucky as % of U.S. (Percent)
1961	$ 82.8	$112.4	73.7%	$ 64.5	$ 90.8	71.0%	$ 16.2	$ 19.5	83.1%	$ 2.1	$ 2.1	100.0%
1962	96.0	118.0	81.3	69.2	93.9	73.7	24.6	21.7	113.3	2.2	2.4	91.7
1963	102.9	127.4	80.7	72.4	99.7	72.6	27.6	25.0	110.4	2.9	2.7	107.4
1964	104.5	138.8	75.3	70.0	106.7	65.6	30.6	28.9	105.8	4.0	3.2	125.0
1965	111.2	147.6	75.3	77.1	113.5	68.0	27.8	30.3	91.7	6.2	3.8	163.2
1966	131.3	170.1	77.2	85.2	128.3	66.4	35.9	37.2	96.5	10.2	4.6	221.7
1967	158.9	193.6	92.1	100.0	142.1	70.4	48.9	44.6	109.6	9.9	6.9	143.5
1968	169.0	206.4	81.9	104.6	147.0	71.1	53.0	51.2	103.4	11.5	8.2	140.2
1969	202.8	234.5	86.5	126.9	167.6	75.7	65.0	57.4	113.2	11.3	9.5	118.9
1970	222.5	258.4	86.1	138.3	183.6	75.3	72.4	63.4	114.1	11.8	11.4	103.5
1971	232.7	287.3	81.0	150.7	202.0	74.6	66.9	71.5	93.6	15.0	13.8	108.7
1972	238.6	310.0	77.0	147.2	218.1	67.5	72.7	76.2	95.4	15.1	15.7	96.2
1973	259.1	329.1	78.7	160.7	230.8	69.6	81.4	81.5	99.8	17.1	16.8	101.8
1974	277.8	355.5	78.1	174.7	248.8	70.2	84.7	88.5	95.7	18.4	18.2	101.1
1975	326.8	407.7	80.1	199.2	285.3	69.8	99.4	100.7	98.7	28.2	21.7	130.0
1976	359.5	446.8	80.5	213.1	311.0	68.5	112.5	111.7	100.7	33.7	24.1	139.8
1977	380.5	467.7	81.4	233.1	324.6	71.8	111.9	119.2	93.8	35.6	23.9	149.0
1978	393.4	498.7	78.9	235.2	345.4	68.1	122.0	127.8	95.5	36.2	25.5	142.0
1979	470.9	531.8	88.6	291.9	371.3	78.6	139.5	133.8	104.3	39.5	26.7	147.9
1980	506.3	586.3	86.4	314.1	409.0	76.8	149.2	149.3	99.9	43.0	28.0	153.6
1981	522.9	635.2	82.3	321.3	438.0	73.4	157.2	166.0	94.7	44.4	31.2	142.3
1982	515.4	666.8	77.3	315.3	457.7	68.9	158.7	179.1	88.6	41.5	30.0	138.3
1983	579.1	700.3	82.7	368.5	482.6	76.4	167.3	187.2	89.4	43.4	30.5	142.3
1984	608.7	745.7	81.6	371.6	511.9	72.6	187.3	201.6	92.9	49.8	32.2	154.7

Source: U.S. Department of Commerce, Bureau of the Census, *Governmental Finances*, various years. Kentucky data and calculations of Kentucky data through the Kentucky Economic Information System.

expenditure levels for local schools (generally low) and the other two groups (generally high). The clear picture is one of relatively less expenditure support of local schools and of relatively more expenditure support for institutions of higher education and other education, all within levels of total educational expenditure that are consistently below the fifty-state average.

These expenditure comparisons, however, need not be interpreted as suggesting that Kentucky is spending "too much" on some categories. The institutions of higher education subcategory, for example, was below the fifty-state average in all three years shown in Table 13-C: 98.7 percent in 1975, 99.9 percent in 1980, and 92.9 percent in 1984. With Kentucky's total expenditure level at only 77 percent in 1975, 91.3 percent in 1980, and 80.6 percent in 1984, compared with the fifty-state average, any attempt to provide service levels near the fifty-state average necessarily means that those expenditure categories will be above Kentucky's total expenditure level relative to other states. Large investments were made in highways and higher education to bring Kentucky closer to national standards of service in those areas. Because much of this increased spending was debt financed, the expenditure category for interest on general debt is above the Kentucky averages for total expenditures. Stated differently, the expenditure categories with apparently high levels are mainly a reflection of the generally low expenditure levels in the other categories and in total expenditures. Moreover, it is possible that the statistical definitions used by the Bureau of the Census for reporting expenditure statistics by the fifty states are such that the reporting of Kentucky statistics by categories causes some items to be counted in one category in Kentucky but in other categories in other states, thereby making the Kentucky relative amounts appear higher than they should appear. For example, vocational education expenditures are included in the other education subcategory in the Kentucky data since in Kentucky these expenditures are not made by local schools nor by institutions of higher education, as they are in many other states. The amounts shown in Table 13-A to 13-E are based only on the statistics published for all fifty states by the Bureau of the Census.

Several of the relationships described in the expenditure tables are highlighted in the following illustrations. Figure 13-A is a reminder that state and local governments spend much more than they collect from taxation, with the excess being accounted for by federal aid, nontax revenue (charges and miscellaneous revenues), and the proceeds from new debt issues. Per capita expenditure levels are compared among Kentucky, Tennessee, Georgia, and the 50-state average for six selected years in Figure 13-B. All three states are below the national average (100 percent) in all years shown. Kentucky's relative position shows more variation among years than do those of the two other states. Figure 13-C gives details of expenditure types for Kentucky for 1984. Two benchmarks are suggested for comparison—

Kentucky's relative level of total expenditures (80 percent) and the national average (100 percent). These comparisons allow identification of the expenditure types in which Kentucky is above or below its own average or the national average. Note that the amounts are percentages of the national average and do not indicate the relative size of particular categories. For example, a category that is well above the national average could be only a minor part of total expenditures while a category that is close to the Kentucky average could be a major part of total expenditures. For Figure 13-D, a problem arose in further illustrating some of the details on expenditure types, requiring that three figures be presented. Selected for illustration are three expenditure types that were generally above average in the period 1961 to 1984: higher education, highway transportation, and interest on general debt. Figure 13-E also concerns per capita expenditures, giving detail for three categories of educational expenditures and the total.

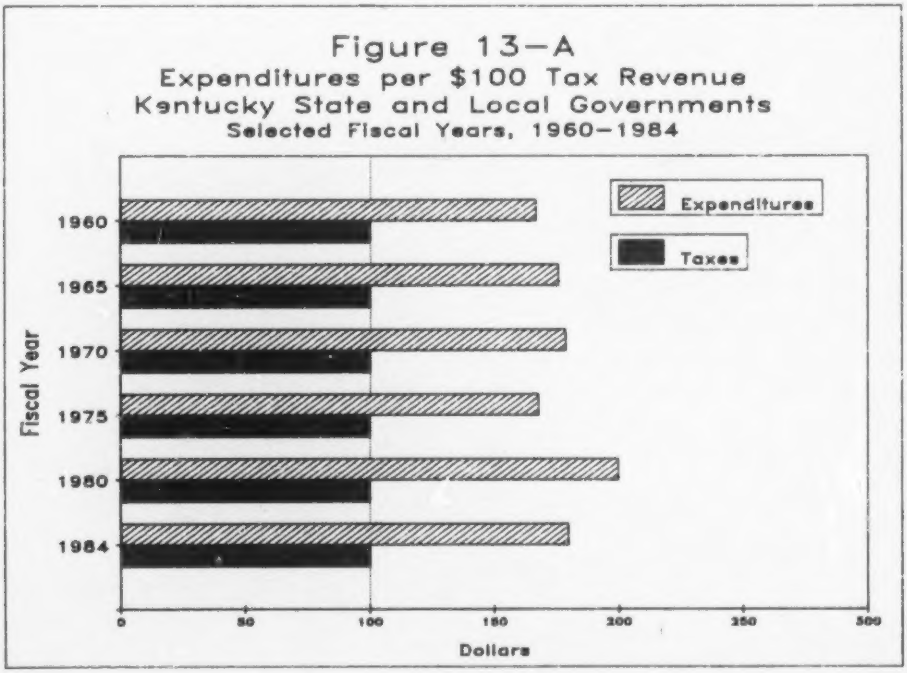


Figure 13—A
Expenditures per $100 Tax Revenue
Kentucky State and Local Governments
Selected Fiscal Years, 1960—1984

Figure 13-B

Per Capita Expenditures of State & Local Governments
Ky., Tn., & Ga. as Percent of 50 State Average
Selected Fiscal Years 1960-1984

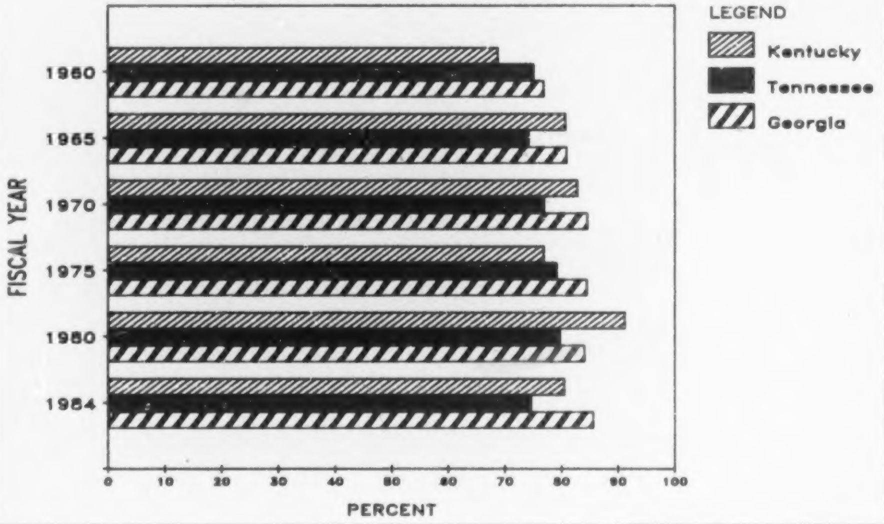


Figure 13-C

Per Capita Expenditures of State and Local Governments
Kentucky as % of 50 State Average, FY 1984
(Kentucky Average = 81% ; 50 State Average = 100%)

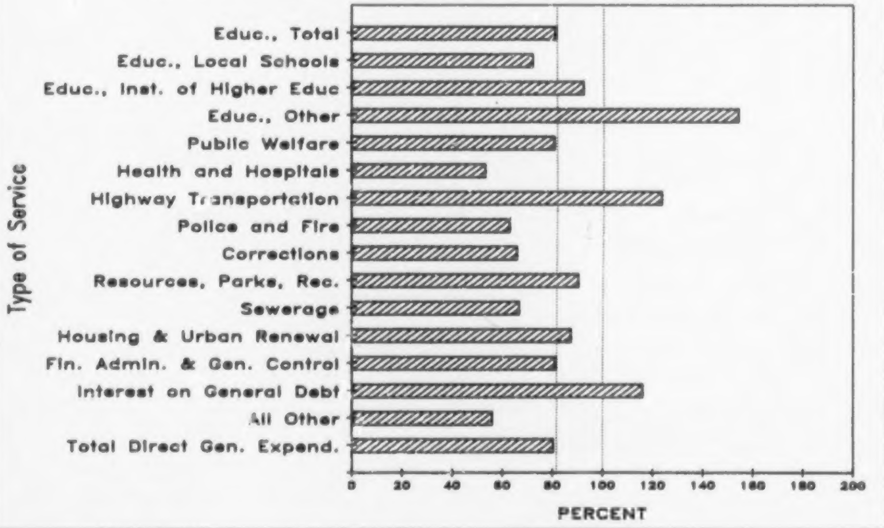


Figure 13–D.1
Per Capita Expenditures
by State & Local Governments for Higher Education
Kentucky, Tennessee, & Georgia as % of 50 State Average

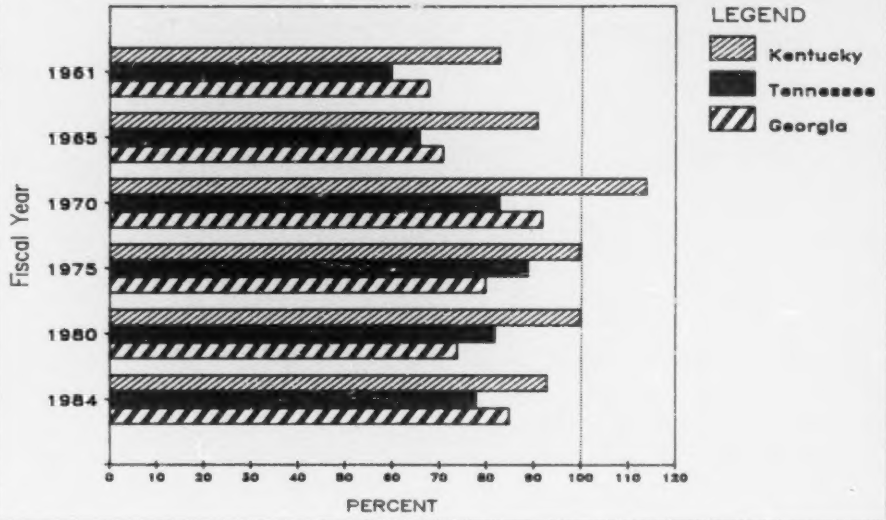


Figure 13–D.2
Per Capita Expenditures
by State & Local Governments for Highway Transp.
Kentucky, Tennessee, & Georgia as % of 50 State Average

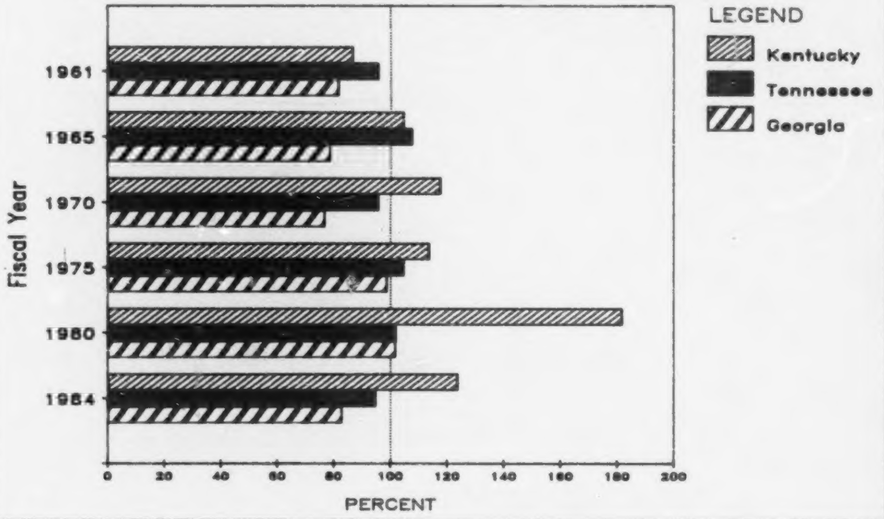


Figure 13–D.3

Per Capita Expenditures

by State & Local Governments for Interest on Gen. Debt

Kentucky, Tennessee, & Georgia as % of 50 State Average

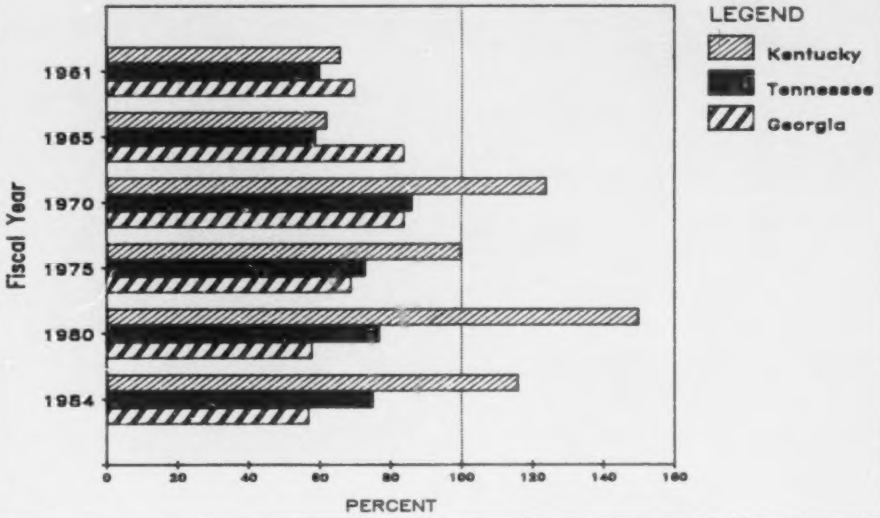
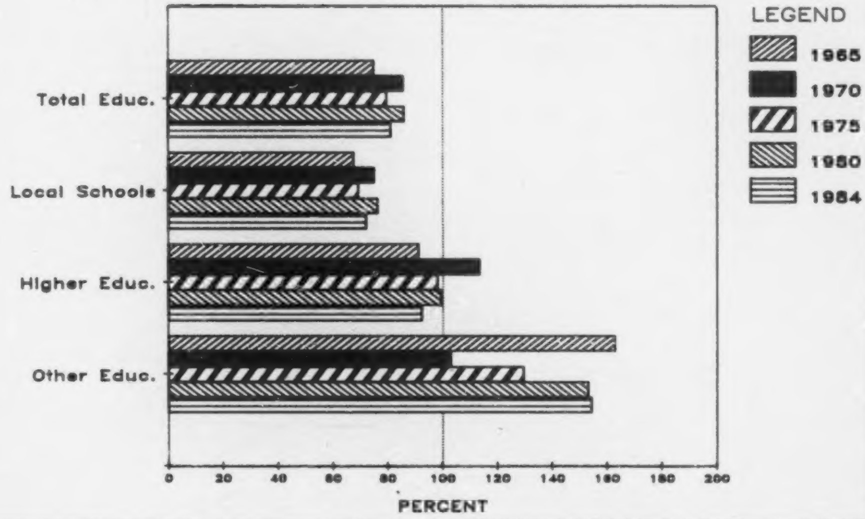


Figure 13–E

Per Capita Expenditures

by State & Local Governments for Education

(Kentucky as % of 50 State Average, Selected Years)



14. Federal Aid to State and Local Governments

The federal government has many programs whereby funds are transferred to state and local governments, sometimes for services of any type but mostly for designated types of services. These are commonly referred to as federal aid, and they have many effects. One effect is to reduce the degrees of inequality among states and localities in the levels of services. The inequality-reduction effect is achieved by giving larger per capita amounts of federal aid to states and localities that are below the national average in per capita economic values (such as personal income) and giving smaller per capita amounts of aid to states and localities that are above average in per capita economic values. These equalizing effects are partly offset, however, by other characteristics of federal aid, such as: differences among states in their response to incentive features that require matching expenditures from the recipient state or local government's own-source revenue, and the uneven distribution among states in the types of activities supported by the federal aid programs. Nevertheless, federal aid has the general effect of reducing the inequality of expenditure levels among states for programs that are targeted for federal aid. Other effects of federal aid are to raise overall spending levels of state and local governments and to influence the distribution of expenditures among types of services because federal aid is often restricted to particular uses.

In the Southeast overall, and in all three of the states examined in this report, personal income per capita is below the national average, with Kentucky and Tennessee usually in the low 80 percent range relative to the fifty-state average, and with Georgia usually about 5 percentage points higher. Because these three states are below the national average in per capita personal income and other economic values, they receive per capita amounts of federal aid that are closer to the national average than are their own-source revenues. Sometimes, they receive aid amounts above the national average. Thus, these states can have expenditure levels that, while below the fifty-state average, are closer to that average than would be possible without the federal aid. For several decades federal aid in the nation had been increasing in importance relative to state and local own-source revenues, but it reached a peak about 1978 and has been declining since then.

Table 14-A shows federal aid per capita for Kentucky, Tennessee, Georgia, and the fifty-state average for the 25-year period 1960 to 1984. Also shown are particular state amounts as percentages of the fifty-state average. The large increase in dollar amounts over the years is mainly the result of inflation and national growth. The last three columns showing whether Kentucky was above or below the fifty-state average and how Kentucky compared with Tennessee and Georgia are of special interest because Kentucky received per capita amounts of federal aid that were above the

TABLE 14-A

Federal Aid to State and Local Governments Per Capita
Kentucky, Tennessee, Georgia and the Average of the 50 States, Fiscal Years 1960-1984

	Dollars per Capita				Percent of 50-State Average		
Fiscal Year	**50-State Average**	**Kentucky**	**Tennessee**	**Georgia**	**Kentucky**	**Tennessee**	**Georgia**
1960	$ 38.7	$ 45.5	$ 42.9	$ 42.5	117.6%	110.9%	109.8%
1961	39.0	40.4	45.1	42.4	103.6	115.6	108.7
1962	42.3	47.9	44.7	47.9	113.2	105.7	113.2
1963	46.3	53.8	52.9	50.2	116.2	114.3	108.4
1964	52.3	65.4	57.4	55.0	125.0	109.8	105.2
1965	57.0	67.8	59.8	57.5	118.9	104.9	100.9
1966	67.1	80.6	73.3	71.3	120.1	109.2	106.3
1967	78.5	104.1	84.7	81.2	132.6	107.9	103.4
1968	86.2	110.8	84.8	87.8	128.5	98.4	101.9
1969	95.1	126.9	88.2	92.9	133.4	92.7	97.7
1970	107.1	115.8	105.8	99.0	108.1	98.8	92.4
1971	126.4	160.8	132.1	125.5	127.2	104.5	99.3
1972	149.3	147.4	134.4	151.8	98.7	90.0	101.7
1973	185.7	188.4	171.5	179.8	101.5	92.4	96.8
1974	196.1	203.3	173.9	199.5	103.7	88.7	101.7
1975	218.3	224.5	196.5	225.7	102.8	90.0	103.4
1976	255.5	254.5	234.7	242.7	99.6	91.9	95.0
1977	284.7	272.2	249.5	263.5	95.6	87.6	92.6
1978	313.3	295.5	281.2	317.1	94.3	89.8	101.2
1979	334.7	338.0	295.9	342.9	101.0	88.4	102.4
1980	365.4	368.7	345.4	351.5	100.9	94.5	96.2
1981	393.4	396.8	364.6	387.2	100.9	92.7	98.4
1982	375.1	359.6	335.4	386.4	95.9	89.4	103.0
1983	384.5	369.5	363.4	424.3	96.1	94.5	110.4
1984	411.0	397.3	391.3	418.8	96.7	95.2	101.9

Source: U.S. Department of Commerce, Bureau of the Census, *Governmental Finances*, various years; population data directly from Bureau of the Census.

fifty-state average in 18 of the 25 years shown and received below average amounts in seven of those years: 1972, 1976-78, and 1982-84. Another interpretation is that Kentucky received amounts that were well above average in the period 1960 to 1971; but in the period 1972 to 1984, Kentucky's amounts were close to the national average, being as high as 103.7 percent in 1974 and as low as 94.3 percent in 1978. While the nearly-average and below-average amounts after 1971 are a relative decline in Kentucky's receipt of federal aid, it should be recognized that even in the lowest year (94.3 percent in 1978) Kentucky's per capita federal aid amount was much closer to the national average than were other relevant Kentucky amounts such as per capita personal income (low 80 percent range; see Section 3 of this report) and taxes per capita (low 70 percent range; see Section 12 of this report). Nevertheless, Kentucky's expenditure levels did not receive as much boost from federal aid in the 1972-84 period as in the 1960-71 period.

Compared with Tennessee and Georgia, Kentucky received larger relative amounts of federal aid in most, but not all, years of the 25-year period shown in Table 14-A. That is, per capita federal aid to Kentucky was a larger percentage of the fifty-state average than was the case in Tennessee and Georgia, except for the following years: Kentucky was lowest of the three states in 1961; Kentucky and Georgia were identical in 1962; and Kentucky was below Georgia in 1972, 1975, 1978-79, and 1982-84. As mentioned above, Georgia's improved relative position could be influenced by the distribution among states in the types of activities supported by federal aid as well as the degrees of response of the individual states to the matching requirements of some federal aid programs.

Federal aid allows state and local governments to spend at higher levels than would be possible if only their own-source revenues were spent. It is interesting, therefore, to compare federal aid amounts to own-source revenue amounts and to observe how these relationships differ among states and change over the years. Table 14-B shows federal aid as a percentage of own-

TABLE 14-B

Federal Aid in Relation to Total Own Source General Revenue—State and Local Governments
Kentucky, Tennessee, Georgia and the Average of the 50 States, Fiscal Years 1960-1984

	Federal Aid as a Percent of Total General Revenue from Own Sources						
	Percent of Own Source Revenue				State/50-State Average		
Fiscal Year	50-State Average	Kentucky	Tennessee	Georgia	Kentucky	Tennessee	Georgia
1960	16.0%	30.9%	26.5%	23.8%	193	166	149
1961	15.2	22.6	27.4	22.6	149	180	149
1962	15.6	25.4	25.4	24.3	163	163	156
1963	16.1	27.0	27.5	23.5	168	171	146
1964	17.1	31.2	27.2	24.6	182	159	144
1965	17.5	30.2	26.5	22.9	173	151	131
1966	18.8	31.9	29.6	25.9	170	157	138
1967	20.4	36.5	31.2	26.7	179	153	131
1968	20.4	36.3	28.6	25.9	178	140	127
1969	20.1	34.7	26.8	25.1	173	133	125
1970	20.1	29.6	28.9	23.5	147	144	117
1971	22.0	38.2	33.1	27.8	174	150	126
1972	23.1	31.8	29.5	29.1	138	128	126
1973	26.0	36.1	32.9	31.5	139	127	121
1974	25.2	35.1	30.8	31.3	139	122	124
1975	26.0	34.5	32.6	32.9	133	125	127
1976	27.7	36.4	36.3	32.9	131	131	119
1977	28.0	36.0	34.4	32.7	129	123	117
1978	28.2	35.6	34.7	35.6	126	123	126
1979	28.0	36.2	33.9	33.9	129	121	121
1980	27.7	36.7	36.9	31.6	132	133	114
1981	27.1	37.6	34.7	31.5	139	128	116
1982	23.5	31.8	30.6	28.5	135	130	121
1983	22.7	30.8	29.9	28.1	136	132	124
1984	21.8	29.0	30.6	26.3	133	140	121

Source: U.S. Department of Commerce, Bureau of the Census, *Governmental Finances*, various years; Kentucky data through the Kentucky Economic Information System.

source general revenue, for Kentucky, Tennessee, Georgia, and the fifty-state average, for the 25-year period 1960-84. These values for the three states are also shown in the last three columns as percentages of the fifty-state average. Interpretation is as follows, using 1960 as the example: Kentucky received $30.90 of federal aid for each $100 of its own-source revenue; the similar amount for the fifty-state average was $16; expressing $30.90 as a percentage of $16 shows Kentucky's federal aid amount to be nearly twice as large, 193 percent.

For all of the 25 years, the level of federal aid in Kentucky (as a percentage of own-source revenue) was above the fifty-state average. But there was a noticeable difference between the period 1960 to 1971, when Kentucky was especially high in terms of federal aid as a supplement to its own-source revenue, and the period 1972 to 1984 when Kentucky was only moderately high. Kentucky received $29 of federal aid per $100 of own-source revenue in 1984, but the fifty-state average aid amount was $21.80, causing Kentucky's percentage of the fifty-state average to be only 133 percent. Comparing Kentucky with Tennesee and Georgia, the last three columns in Table 14-B show Kentucky to be above Tennessee and Georgia in most of the 25 years in federal aid as a percentage of own-source revenue. The exceptions when the Kentucky values were not highest among these states were: 1961-63, 1976, 1978, 1980, and 1984. In these comparisons of federal aid to own-source revenue, the three states examined have percentages above the national average because they have below-average values of own-source revenue per capita and also have above-average values of federal aid per capita. Year-to-year differences among the three states are influenced by the economic characteristics of the particular states, the features of federal aid programs, and how the relationships among these have changed over the years.

Another dimension of federal aid is the distribution of these amounts, as expenditures, among various categories of governmental services. For the period 1978 to 1984, Kentucky amounts of federal aid are shown in Table 14-C as percentage distributions among expenditure categories. The unusually large percentages in the "other" category result from the small degree to which the data show detail as to expenditure types. Nevertheless, the data show a large and increasing importance of federal aid for support of public welfare programs (such as Medical Assistance, and Aid to Families with Dependent Children wherein federal aid supplements state revenues for state-administered programs). Federal aid to education remained nearly constant over the period, as a share of total federal aid, although declines are noted in the 1978-80 period, as well as since 1982. General revenue sharing has declined over the entire period.

In addition to *federal aid* to state and local governments, large amounts of federal revenue are paid directly to individuals as *transfer payments*. Relative

TABLE 14-C

Federal Aid to Kentucky State and Local Governments by Specific Expenditure Programs, Fiscal Years 1978-1984

Fiscal Year	Total Federal Aid to Kentucky (Millions of current dollars)	Federal Aid by Specific Expenditure Programs as Percent of Total Federal Aid: Public Welfare	Education	General Revenue Sharing	Other
1978	$1066.6	24.9%	19.0%	10.5%	45.5%
1979	1230.9	22.6	17.4	9.1	50.9
1980	1349.8	29.6	18.0	8.2	44.2
1981	1458.1	31.8	18.4	6.4	43.4
1982	1327.5	34.4	19.0	5.7	41.0
1983	1372.3	34.9	18.7	5.5	40.8
1984	1479.0	35.3	17.2	5.1	42.3

Source: U.S. Department of Commerce, Bureau of the Census, *Governmental Finances*, various years; through the Kentucky Economic Information System.

Note: Specific Expenditure Programs are defined in the Glossary. The Other category above includes Highways, Health and Hospitals, Housing and Urban Renewal, etc.

to the personal income statistics, transfer payments include payments by businesses and governments to persons and nonprofit institutions; they are defined as any income received for which *current* services are not rendered (see the Glossary at the end of Part I of this report). If the total of these transfer payments is reduced by payments by business and by all payments to nonprofit institutions, the result is *governmental* transfer payments to individuals. Major examples of these are benefits paid in such income support programs as Social Security and veterans' pensions (mainly federal programs) and Unemployment Insurance (mainly a state program). The close resemblance of transfer payments and intergovernmental aid can be shown by an example.

Two families, each with only a mother and two children, could be receiving similar monthly incomes from governmental programs as follows: Family A consists of a widow receiving federal Social Security survivors' benefits for her two dependent children, and Family B consists of a single mother receiving Aid to Families with Dependent Children (AFDC) benefits for her two dependent children. The income received by both families is defined as governmental transfer payments to individuals, and these transfer payments are financed wholly or partly by federal revenue. For Family A, the benefit check is received directly from the federal government and is 100 percent federal money; but this federal money is not a part of federal intergovernmental aid because the funds flow directly from the federal government to the family, omitting the state government. For Family B, the federal money flows first to state government, as federal intergovern-

TABLE 14-D

Components of Government Transfer Payments to Individuals, by Type of Payment: Kentucky and United States, 1960-1984

(Amounts as Percents of Government Transfer Payments to Individuals[a])

Year	Retirement[b]		Unemployment Insurance[c]		Educational[d]		Income Maintenance[e]		Veterans Benefits[f]	
	Kentucky	United States	Kentucky	United States	Kentucky	United States	Kentucky	United States	Kentucky	United States
1960	49.5	56.0	9.1	11.6	0.1	0.1	13.7	12.6	27.6	19.7
1961	43.7	54.9	9.8	14.5	0.1	0.1	11.6	11.6	34.9	18.8
1962	54.9	60.0	6.8	10.2	0.2	0.2	13.1	11.7	25.0	17.8
1963	59.0	60.9	6.2	9.3	0.4	0.3	13.3	11.6	21.1	17.9
1964	59.7	62.2	6.1	8.1	1.0	0.4	12.9	11.7	20.2	17.5
1965	62.1	64.2	4.5	6.4	0.7	0.6	12.7	11.4	20.0	17.3
1966	64.6	67.1	3.0	4.7	0.9	0.7	13.2	11.3	18.4	16.2
1967	65.4	68.0	3.3	4.7	0.8	0.6	13.1	11.0	17.4	15.7
1968	67.3	69.4	3.2	4.0	0.7	0.5	12.7	11.1	16.1	14.9
1969	67.2	68.5	3.1	3.8	0.6	0.5	12.6	11.7	16.4	15.3
1970	65.9	66.0	3.9	5.7	0.5	0.5	14.2	13.3	15.4	14.4
1971	65.9	64.6	5.0	7.1	0.8	0.5	14.0	13.9	14.4	13.9
1972	67.1	65.5	4.5	6.3	0.6	0.5	13.5	13.7	14.3	14.0
1973	70.5	69.3	3.3	4.1	0.5	0.4	12.8	12.4	12.9	13.5
1974	67.9	67.6	3.8	5.3	0.5	0.5	15.2	13.4	12.5	13.1
1975	62.5	62.2	8.3	10.9	0.7	0.6	15.1	12.7	12.3	12.5
1976	65.4	65.3	6.6	9.1	0.8	0.8	15.3	12.9	11.9	11.8
1977	68.1	68.5	5.1	6.8	1.1	1.0	14.4	12.3	11.4	11.3
1978	70.5	71.0	4.2	5.0	1.1	1.1	13.0	11.7	11.1	11.1
1979	70.9	72.0	4.8	4.4	1.2	1.2	12.7	11.6	10.4	10.7
1980	68.2	70.2	8.0	6.7	1.4	1.5	13.2	11.8	9.3	9.8
1981	70.4	72.3	6.2	5.4	1.3	1.5	13.1	11.3	8.9	9.4
1982	70.8	72.2	7.8	7.2	1.0	1.3	11.9	10.3	8.5	8.9
1983	70.8	72.8	7.4	6.9	1.3	1.4	12.3	10.3	8.1	8.6
1984	74.1	76.0	3.9	4.1	1.3	1.4	12.7	10.3	8.0	8.1

Source: U.S. Department of Commerce, Bureau of Economic Analysis. Kentucky data through the Kentucky Economic Information System.

Notes

[a] The amounts do not sum exactly to 100 percent because of the exclusion of the category Other Government Payments to Individuals. In Kentucky, this is generally an insignificant amount. As used in these descriptions of Transfer Payments, Government is the composite of federal, state, and local governments.

[b] The category Retirement is defined as *Governmental* retirement, disability, and health insurance benefit payments. It includes Old-Age, Survivors, and Disability Insurance (OASDI, i.e., Social Security) payments; Railroad Retirement and Disability payments; Federal Civilian Employee Retirement payments; State and Local Government Employee Retirement payments; Medical Insurance payments; Workers Compensation payments (federal and state); and Other Governmental Disability Insurance and Retirement payments. In Kentucky, this latter category is almost exclusively Black Lung payments.

[c] The category Unemployment Insurance includes State Unemployment Insurance Compensation; Unemployment Compensation for Federal Civilian Employees (UCFE); Unemployment Compensation for Railroad Employees; Unemployment Compensation for Veterans (UCX); and Other Unemployment Compensation, such as Trade Readjustment Allowance payments, etc.

[d] The category Educational refers to Federal Educational and Training Assistance Payments, excluding payments to veterans. It includes Federal Fellowship Payments; Interest Subsidy on Higher Education Loans; Basic Educational Opportunity Grants; and Job Corps payments.

[e] The category Income Maintenance includes Supplemental Security Income (SSI) payments; Aid to Families With Dependent Children (AFDC); General Assistance payments; Food Stamps; and Other Income Maintenance.

[f] The category Veterans Benefits includes Veterans Pensions, Compensation, and Military Retirement; Educational Assistance to Veterans, Dependents, and Survivors; Veterans Life Insurance Benefit payments; and Other Assistance for Veterans.

mental aid, and then from the state government to Family B. Before being received by Family B, the federal funds are supplemented with some of the state government's own-source revenue.

It can be argued that state governments might feel compelled to spend larger amounts of own-source revenue for public welfare if not for the several federal programs that give income support directly to individuals. Also, proposals have been made to convert all or most of the federal-state cooperative welfare programs to completely federal programs, in which case the AFDC check to Family B might come directly from the federal government, omitting the indirect route through the state government. Assuming no change in total amounts, generally offsetting changes would occur among the statistical groups. The statistics on federal aid would show a decrease; total governmental transfer payments to individuals would remain unchanged; but within that total, the state portion would decline and the federal portion would increase.

Selected statistical comparisons are presented in Table 14-D for total governmental transfer payments to individuals. Kentucky is compared with the nation for the 25-year period 1960 to 1984 according to five components of total governmental transfer payments to individuals. The federal share of total governmental transfer payments to Kentucky individuals was about 94 percent in 1984, based upon data on federal direct payments to individuals in *Federal Expenditures by State for Fiscal Year 1984* (U.S. Department of Commerce, Bureau of the Census, March 1984, page 17). Noteworthy in Table 14-D are: the substantial increase in relative importance of governmental retirement, disability, and health insurance benefits; the decline in relative importance of unemployment insurance benefits; the slight increase in relative importance of educational benefits; the relative stability of income maintenance; and the relative decline in importance of veterans' benefits. Because these amounts are percentages of a total and must add to 100 percent, the declines or modest increases in most categories are a reflection of the very large increases in governmental retirement, etc., payments. Note that unemployment insurance benefit payments can decrease to a greater degree than the unemployment rates decline, insofar as the long-term unemployed exhaust their benefit eligibility. Between 1983 and 1984, for example, UI benefit payments declined by 48 percent in Kentucky and by 39 percent in the nation, while the total unemployment rates declined by 20 percent for Kentucky and 22 percent for the nation.

Table 14-E concerns total transfer payments as a component of total personal income for the 25-year period 1960 to 1984. Transfer payments are shown for Kentucky and the nation as dollars per capita, and the Kentucky amounts are also shown as percentages of the national amounts. Also shown are transfer payments as percentages of total personal income, for Kentucky and the nation, with the Kentucky percentages also expressed as percent-

TABLE 14-E
Total Transfer Payments, Per Capita and as Percentages of Total Personal Income Kentucky and the Average of the 50 States, 1960-1984

	Transfer Payments: Dollars Per Capita			Transfer Payments as a Percent of Total Personal Income		
Fiscal Year	Kentucky	United States	Kentucky as a % of U.S.	Kentucky	United States	Kentucky as a % of U.S.
1960	$ 152.6	$ 160.8	95%	9.6%	7.3%	132%
1961	193.3	179.4	108	11.5	7.9	145
1962	175.2	181.8	96	9.9	7.7	129
1963	174.3	190.2	92	9.4	7.8	122
1964	180.6	195.9	92	9.5	7.6	125
1965	195.1	208.9	93	9.4	7.5	125
1966	214.0	228.5	94	9.5	7.7	124
1967	248.1	266.5	93	10.3	8.4	122
1968	274.3	300.2	91	10.5	8.8	120
1969	300.7	331.1	91	10.4	8.9	117
1970	353.0	393.3	90	11.4	10.0	114
1971	406.6	456.6	89	12.4	11.0	113
1972	445.8	500.2	89	12.4	11.1	112
1973	530.2	565.5	94	13.3	11.3	118
1974	625.6	662.0	95	13.9	12.2	114
1975	765.6	827.6	93	16.0	14.2	113
1976	820.5	893.0	92	15.6	14.0	111
1977	861.9	946.0	91	14.9	13.5	110
1978	909.2	1007.9	90	14.3	13.0	110
1979	1037.9	1114.4	93	14.6	12.9	114
1980	1240.5	1310.0	95	16.2	13.8	118
1981	1390.6	1469.4	95	16.2	13.9	117
1982	1517.5	1622.4	94	16.7	14.6	115
1983	1629.6	1730.5	94	17.5	14.8	118
1984	1635.3	1764.6	93	15.9	13.8	115

Source: U.S. Department of Commerce, Bureau of Economic Analysis. Kentucky data through the Kentucky Economic Information System.

ages of the national percentages, for the same 25-year period. Most important for analysis purposes are the relative values in columns 3 and 6.

Kentucky's per capita amounts of transfer payments were smaller than the nation's per capita amounts, in all but one of the years shown, with the Kentucky amounts varying from a low of 89 percent to a high of 108 percent. But when compared with personal income, the below-average level of Kentucky's per capita personal income causes Kentucky's smaller-than-average per capita transfer payments to become greater-than-average percentages of personal income. As shown in the last column of Table 14-E, Kentucky's percentages of transfer payments to personal income were above the national level (100 percent) in all of the years shown, ranging from a low of 110 percent to a high of 145 percent. The comparison of transfer payments to personal income shows a general decline in the Kentucky percentages relative to the national percentages (last column) up to about 1977-78, with an increase since 1978. Insofar as transfer payments reflect the need for governmental income support programs, a decline in Kentucky's relative dependence on transfer payments (reduced percentages in column 6) is a sign of economic improvement in Kentucky while an increase in the Kentucky relative percentages suggests reduced economic well-being, relative to the nation. Readers are cautioned, however, not to place too much emphasis on these comparisons, because of the many extraneous forces influencing the data. Nevertheless, the many other statistical comparisons in this report (as well as in previous annual editions) show that economic improvement in Kentucky, relative to the nation, tended to reach a peak about 1978 and to decline since then.

The following charts are presented to highlight the important relationships shown in the tables concerning federal aid and governmental transfer payments. Figure 14-A compares Kentucky, Tennessee, and Georgia in per capita amounts of federal intergovernmental aid, showing Kentucky to be highest in the group but to be declining from that position, over the years, according to this measure. Figure 14-B compares the relative importance of federal aid as a source of revenue in Kentucky, Tennessee, and Georgia, showing Kentucky to have the highest dependency on federal aid in most of the period 1960 to 1984. Figure 14-C deals with governmental transfer payments to individuals and shows their changing relative importance over the years as to types of supported functions. Figure 14-D compares Kentucky and the nation in transfer payments measured as per capita amounts and also as percents of personal income, showing Kentucky's below-average position in per capita amounts but above-average position when compared to personal income.

Figure 14-A
Federal Aid to State & Local Governments Per Capita
Ky., Tn., & Ga. as Percent of 50 State Average
Fiscal Years 1960-1984

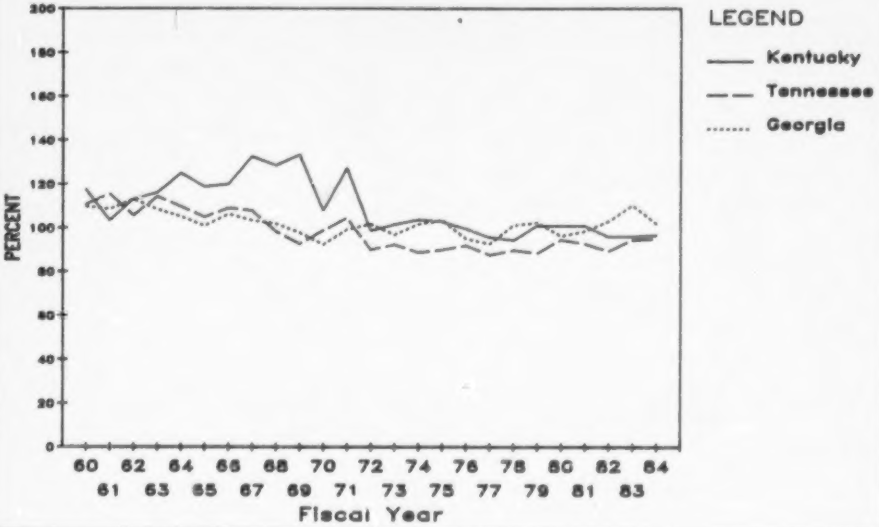


Figure 14-B
Federal Aid as % of Total General Revenue
from Own Sources
(Indexed, 50 State Average = 100)

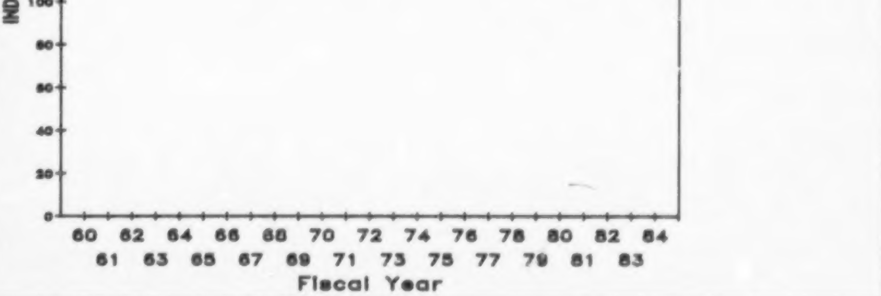


Figure 14–C

Components of Government Transfer Payments to Individuals –– Kentucky – Selected Years

(as % of Total Transfer Payments)

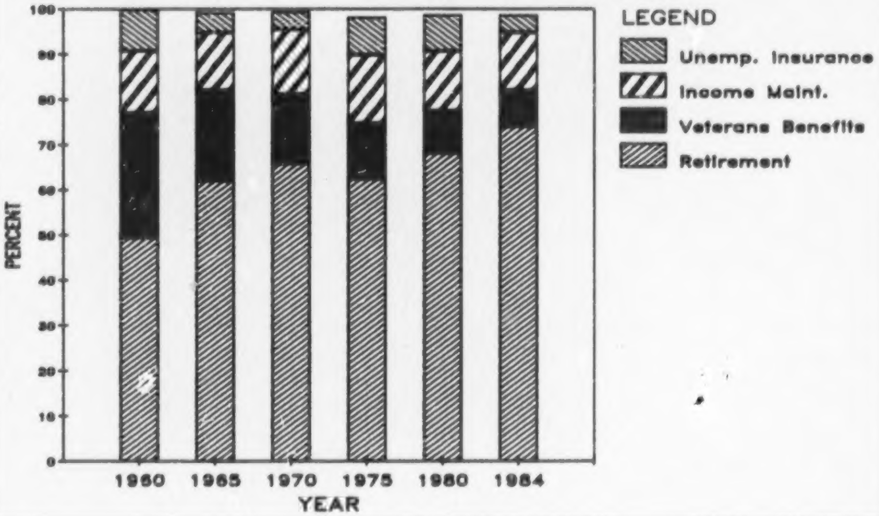
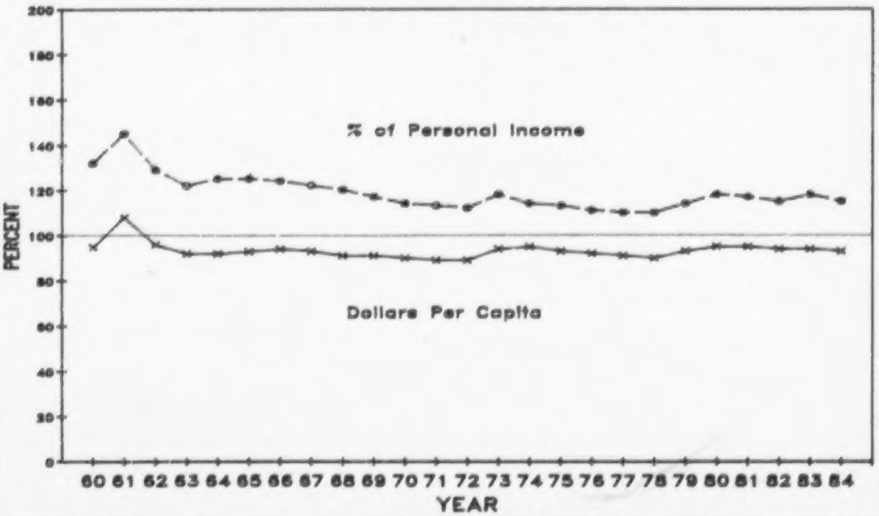


Figure 14–D

Total Transfer Payments

Per Capita and as % of Total Personal Income

(Kentucky as % of 50 State Average)



15. Debt Statistics of State and Local Governments

The main source of state and local government debt statistics used in this section of the report is the U.S. Bureau of the Census. Also used are statistics from agencies of Kentucky state government. While the Kentucky source information is potentially more elaborate and complete, only the Census statistics allow Kentucky to be compared with other states and the fifty-state average. A summary comparison of debt statistics from the two sources is presented in Table 15-A. Tables 15-B and 15-C use the Census data to compare Kentucky with Tennessee, Georgia, and the fifty-state average. Only Kentucky-source data are used in Table 15-D which analyzes Kentucky *local* government debt, in Tables 15-E and 15-F which analyze Kentucky *state* government debt, and in Table 15-G which summarizes Kentucky state and local government debt in total and per capita amounts.

It is apparent from Table 15-A that the debt amounts for Kentucky differ between the two statistical sources. Moreover, the size of the discrepancy fluctuates over the years. Reader reaction to these statistical discrepancies should be tempered, however, by recognition that the Census data is: collected from several types of sources; concerns 50 states and approximately 80,000 local governments in the nation; uses samples of the local governments; and fits the data into definitions that, for statistical categorization purposes, are uniform for all of the states and localities. State and local government debt financing activities in the nation have been extended to a variety of purposes, including economic development where the public-private purpose distinction becomes somewhat unclear. Moreover, different states and localities utilize debt for different purposes. Consequently, some modifications undoubtedly are necessary to make the data comparable among the 50 states. Nothing in the comparisons presented in this report is intended to suggest that the Census Bureau information is superior in quality to the Kentucky source information, or vice-versa. The statistical discrepancies mainly reflect the difficult nature of the subject being measured.

In 1984, for example, Kentucky's state plus local outstanding debt of $9,400.9 million according to the Kentucky data, less $9,608.6 million according to the Census data, is a difference of minus $207.7 million. Using the same method for *state* debt, the Kentucky data less the Census data is a difference of minus $17.2 million ($3,366.9 - $3,384.1), while for *local* debt the Kentucky data less the Census data is a difference of minus $190.5 million ($6,034.0 - $6,224.5). The discrepancies between state and local debt (which may be partly accounted for by the Census Bureau's survey method), are partly offsetting in total debt. But even the amounts for total state plus local debt differ substantially between the two data sources. Also, the degree and direction of total discrepancy varies widely over the years. For example, the Kentucky data show larger totals than the Census data

TABLE 15-A

Outstanding Long Term Debt of Kentucky State and Local Governments A Comparison of Bureau of the Census Data with Kentucky Finance and Administration Cabinet Data, 1973-1984

	Kentucky Debt as Reported by the U.S. Bureau of the Census					Kentucky Debt as Reported by the Kentucky Finance and Administration Cabinet		
Fiscal Year	Total State Debt	Local General Debt	Utility Debt	Total Local Debt	Total Debt	Total State Debt	Total Local Debt	Total Debt
	(Millions of Dollars)					(Millions of Dollars)		
1973	$1815.6	$1157.8	$ 417.5	$1575.3	$3390.9	$1611.0	$2044.1	$3655.1
1974	1858.5	1276.4	432.3	1708.7	3567.2	1678.5	2253.0	3931.5
1975	1965.0	1312.7	482.5	1795.2	3760.2	1671.8	2326.3	2998.1
1976	1996.6	1456.6	558.8	2015.4	4012.0	1635.4	2480.2	4115.6
1977	2040.6	1641.9	505.1	2146.7	4187.3	1998.3	2615.2	4613.5
1978	2617.4	1889.5	744.1	2633.6	5251.0	2092.8	3164.7	5257.5
1979	2810.5	3266.2	724.3	3990.6	6801.1	2546.1	3642.7	6188.8
1980	3035.2	3604.3	752.2	4356.5	7391.7	2818.2	4023.6	6841.8
1981	3026.6	3556.8	853.4	4410.2	7436.8	3012.4	4284.7	7297.1
1982	2655.2	4727.6	924.8	5652.4	8307.6	2647.1	4904.9	7552.0
1983	3030.8	5518.4	810.5	6328.9	9359.7	2999.2	5889.7	8888.9
1984	3384.1	5110.5	1114.0	6224.5	9608.6	3366.9	6034.0	9400.9

Source: U.S. Department of Commerce, Bureau of the Census, *Governmental Finances*, various years; Kentucky Finance and Administration Cabinet, *Kentucky Local Debt Report* and *Kentucky Annual Financial Report*, various years.

Note: Total Local Debt is the sum of Local General Debt plus Utility Debt. Total Debt is the sum of Total State Debt plus Total Local Debt.

totals in the period 1973 to 1978, with the discrepancy being plus $426.2 million in 1977 and plus $6.5 million in 1978. For the period 1979 to 1984, the Census data totals were largest, with the discrepancy varying from minus $755.6 million in 1982 to minus $139.7 million in 1981.

A substantial part of local government debt in Kentucky is from issuance of "industrial revenue" bonds. In 1984, for example, local industrial revenue bonds accounted for 25.8 percent of total local government debt and 15.1 percent of total state plus local government debt in Kentucky, according to the Kentucky source (see Tables 15-A and 15-D). In addition, several other types of government debt, especially at the state level, have similar characteristics to industrial revenue bonds. For these types of debt, which are often referred to as "on-behalf-of" debt, the borrowed funds are spent in a way to create a source of revenue that is used to service the debt (that is, pay interest and retire principal). Insofar as these amounts (revenue in and payments out) are approximately equal, the issuance of that debt can be said to make no *net* change in a governmental budget. That is, other state and local governmental revenues and expenditures are unaffected.

This essential identity of revenue in and payments out is associated with the conclusion that the issuing government has no legal obligation to service the bonds from revenue other than the revenue produced by the debt-financed facilities. That is, these types of revenue bonds are not a possible claim on the state and local government resources that are received from the usual sources such as federal aid and own-source revenue from taxes and non-tax sources. There are two reasons for this: often there is specific denial of legal obligation; and, usually the debt has no net effect on governmental budgets because revenue in and payments out are essentially equal. The obvious question of why governments issue such debt is easily answered. The debt-financed facilities often are owned by the debt-issuing government, thereby exempting them from property taxation; interest received by the bond owners is exempt from federal and Kentucky income taxes; and these two exemptions allow easier and cheaper financing of facilities and activities that have some general relationship to state and local government responsibilities or are perceived to be in the public interest.

The above arguments may also be used to suggest that debt is not as high as it appears to be, in the sense that some debt is not truly an obligation of government. No attempt is made in this report to evaluate this line of argument. Neither is an attempt made to adjust the debt statistics by omitting those debt amounts which have an essential identity of revenue in and payments out (no net claims on other governmental revenue). Two main reasons are given. First, the comparisons of Kentucky with other states and the fifty-state average must necessarily be made using the Census data, and that data probably could not be adjusted to omit all debt that makes no net claim on state and local government revenue. Although the Kentucky data might possibly be so adjusted, there could be no comparison with the fifty-state average unless new data were created for all states. Second, the previously described interstate comparisons of state and local government revenue (Section 12) and expenditures (Section 13) use Census data which includes in the revenue data all debt-generated revenues (such as tolls from a debt-financed turnpike) and all of the interest payments in the expenditure data (such as interest on turnpike bonds). Insofar as the revenue in and payments out, related to industrial revenue and similar types of debt, have no *net* effect on government budgets, the interstate comparisons of revenues and expenditures presented in Sections 12 and 13 of this report would most likely give the same *general* pictures with the debt related statistics omitted or included. It should be remembered that industrial revenue and similar types of bonds are issued by most other states as well as by Kentucky. But if such debt is relatively more important in Kentucky, and if the associated revenues and expenditures could somehow be removed from the Census data, the results would be to show Kentucky much lower than previously shown in revenue per capita and expenditures per capita, compared with the fifty-state average.

Table 15-B, based entirely on data from the U.S. Bureau of the Census, compares total outstanding long-term debt of state plus local governments

TABLE 15-B

Outstanding Long Term General Debt of State and Local Governments
Per Capita and as Percent of the Average of the 50 States
Average of the 50 States, Kentucky, Tennessee, Georgia
Fiscal Years 1964-1984

	Dollars per Capita				Percent of 50-State Average		
Fiscal Year	50-State Average	Kentucky	Tennessee	Georgia	Kentucky	Tennessee	Georgia
1964	$ 381.8	$ 386.4	$ 289.5	$269.9	101.2%	75.8%	70.7%
1965	403.9	397.2	290.7	306.6	98.3	72.0	75.9
1966	429.9	453.7	308.8	324.1	105.5	71.8	75.4
1967	455.8	596.3	375.9	357.4	130.8	82.5	78.4
1968	477.7	634.1	381.6	409.3	132.7	79.9	85.7
1969	520.3	663.7	392.9	435.4	127.6	75.5	83.7
1970	548.2	683.4	526.2	477.9	124.7	95.9	87.2
1971	592.5	746.4	517.4	506.3	126.0	87.3	85.5
1972	652.1	873.2	552.4	488.1	133.9	84.7	74.9
1973	697.5	881.8	592.5	521.5	126.4	84.9	74.8
1974	761.7	917.4	609.0	561.9	120.4	80.0	73.8
1975	795.7	944.9	631.2	581.2	118.8	79.3	73.0
1976	875.6	978.2	692.3	627.8	111.7	79.1	71.7
1977	949.1	1030.1	780.1	643.5	108.5	82.2	67.8
1978	1020.3	1248.1	881.3	710.4	122.3	86.4	69.6
1979	1080.6	1659.3	874.1	673.0	153.6	80.9	62.3
1980	1176.4	1813.1	1019.9	753.4	154.1	86.7	64.0
1981	1255.7	1791.4	1077.8	774.0	142.7	85.8	61.6
1982	1352.5	1999.7	1023.8	816.7	147.9	75.7	60.4
1983	1544.6	2302.5	1190.9	877.7	149.1	77.1	56.8
1984	1709.9	2281.7	1196.2	967.6	133.4	70.0	56.6

Source: U.S. Department of Commerce, Bureau of the Census, *Governmental Finances*, various years.

Note: See the Glossary at the end of Part II for the Census Bureau's definition of Debt and Long-Term Debt. See also Table 15-G, following, for a comparison with data on outstanding long-term debt from the Kentucky Finance and Administration Cabinet.

in Kentucky, Tennessee, Georgia, and the fifty-state average for the 21-year period 1964 to 1984. Amounts are in dollars per capita. Also shown are the individual state amounts as percentages of the fifty-state average. The obvious picture in Table 15-B is that Kentucky not only is well above the fifty-state average in debt per capita, in nearly every year shown, but also is well above Tennessee and Georgia in every year shown. For example, debt per capita in Kentucky in 1984 was one-third higher than in the fifty states on the average. In 1984, Kentucky's debt per capita was almost twice the Tennessee amount and over twice the Georgia amount.

Table 15-C compares Kentucky, Tennessee, Georgia, and the fifty-state average according to annual expenditures for interest on general debt, for the 25-year period 1960 to 1984. For convenience of comparison, the individual state amounts are also expressed as percentages of the fifty-state average. Also shown are interest expenditures as percentages of own-source revenue, for the three states and the fifty-state average. The three middle columns in the table show Kentucky generally to be above the fifty-state average in interest expenditures per capita. The Kentucky amounts as

TABLE 15-C

Expenditure for Interest on General Debt of State and Local Governments
Per Capita, as a Percent of the Average of the 50 States, and as a Percent of Each State's Own-Source General Revenue
Average of the 50 States, Kentucky, Tennessee, and Georgia—Fiscal Years 1960-1984

	Dollars Per Capita				Percent of 50-State Average			Percent of Own-Source General Revenue			
Fiscal Year	50-State Average	Kentucky	Tennessee	Georgia	Kentucky	Tennessee	Georgia	50-State Average	Kentucky	Tennessee	Georgia
1960	$ 9.28	$ 4.64	$ 6.46	$ 6.67	50.0%	69.6%	71.9%	3.8%	3.1%	4.0%	3.7%
1961	9.97	6.58	5.96	6.97	66.0	59.8	69.9	3.9	3.7	3.6	3.7
1962	10.81	10.69	6.72	7.49	98.9	62.2	69.3	4.0	5.7	3.8	3.8
1963	11.67	12.73	8.39	9.20	109.1	71.9	78.8	4.1	6.4	4.4	4.3
1964	12.33	13.33	8.78	9.11	108.1	71.2	73.9	4.0	6.4	4.2	4.1
1965	12.88	14.27	9.16	9.95	110.8	71.1	77.3	4.0	6.3	4.1	4.0
1966	13.75	14.78	10.47	10.82	107.5	76.1	78.7	3.8	5.8	4.2	3.9
1967	15.31	18.53	12.83	11.77	121.0	83.8	76.9	4.0	6.6	4.7	3.9
1968	16.38	22.69	13.20	13.23	138.5	80.6	80.8	3.9	7.4	4.4	3.9
1969	18.53	23.64	15.06	15.62	127.6	81.3	84.3	3.9	6.5	4.6	4.2
1970	21.44	26.67	18.54	18.07	124.4	86.5	84.3	4.0	6.8	5.1	4.3
1971	24.61	32.35	22.47	19.47	131.5	91.3	79.1	4.3	7.7	5.6	4.3
1972	28.49	35.67	23.21	21.05	125.2	81.5	73.9	4.4	7.7	5.1	4.0
1973	32.10	35.27	26.29	22.34	109.9	81.9	69.6	4.5	6.8	5.0	3.9
1974	35.94	35.77	28.30	24.02	99.5	78.7	66.8	4.6	6.2	5.0	3.8
1975	40.75	40.23	29.83	27.77	98.7	73.2	68.1	4.8	6.2	4.9	4.0
1976	47.19	41.37	34.16	29.81	87.7	72.4	63.2	5.1	5.9	5.3	4.0
1977	51.84	48.25	37.62	31.10	93.1	72.6	60.0	5.1	6.4	5.2	3.9
1978	53.95	54.79	42.09	33.13	101.6	78.0	61.4	4.9	6.6	5.2	3.7
1979	57.82	72.60	44.98	34.71	125.6	77.8	60.0	4.8	7.8	5.2	3.4
1980	64.91	97.90	49.88	37.74	150.8	76.8	58.1	4.9	9.7	5.3	3.4
1981	74.64	90.69	62.33	42.89	121.5	83.5	57.5	5.1	8.6	5.9	3.5
1982	86.16	110.78	67.35	45.41	128.6	78.2	52.7	5.4	9.8	6.1	3.3
1983	103.14	119.87	83.60	57.27	116.2	81.1	55.5	6.1	10.0	6.9	3.8
1984	121.51	141.36	91.48	68.94	116.3	75.3	56.7	6.4	10.3	7.2	4.3

Source: U.S. Department of Commerce, Bureau of the Census, *Governmental Finances*, various years.

percentages of the fifty-state averages were above 100 in 18 of the 25 years from 1960 to 1984. The seven years when the Kentucky values were below 100 percent were 1960-62 (substantially below) and 1974-77 (only slightly below). Kentucky's highest relative amount was 150.8 percent of the fifty-state average in 1980 while its lowest was 50 percent in 1960. The last four columns of Table 15-C also reflect Kentucky's above-average debt position, showing that interest expenditures are much larger percentages of own-source general revenue than in the three other states and the fifty-state average. Interest expenditures were higher as a percentage of state and local government own-source general revenue in Kentucky than in Tennessee, Georgia and the fifty-state average in all of the years shown, except for 1960 and 1961.

Debt statistics from the Kentucky Finance and Administration Cabinet are presented in Table 15-D for Kentucky *local* governments, by types of local government and by types of bonds, for the 14-year period 1971 to 1984. Total outstanding debt in millions of dollars is divided into totals for industrial revenue bonds and for all other bonds. The totals for other bonds are shown as percentage distributions among the four groups of local governments: counties, cities, special districts, and school districts. Between 1971

TABLE 15-D
Kentucky Local Government Debt Outstanding
Total and by Types—Fiscal Years 1971-1984

	Outstanding Debt of Kentucky Local Governments						
				Distribution of Other Bonds, by Types of Local Governments			
Fiscal Year	**Total**	**Industrial Revenue Bonds**	**Other Bonds**	**County Governments**	**City Governments**	**Special Districts**	**School Districts**
	(Millions of Dollars)			(Percent)			
1971	$1684.9	$ 642.1	$1042.8	5.5%	43.2%	11.2%	40.2%
1972	1817.1	602.5	1214.7	6.6	41.8	12.9	38.7
1973	2044.1	628.3	1415.9	7.8	43.5	11.0	37.7
1974	2253.0	654.1	1599.0	9.9	42.6	11.7	35.8
1975	2326.3	670.9	1655.4	11.4	41.7	11.3	35.6
1976	2480.2	720.0	1760.2	12.2	41.4	11.8	34.6
1977	2615.2	719.6	1931.6	13.2	42.6	10.7	33.5
1978	3164.7	726.8	2437.9	16.9	46.7	9.1	27.2
1979	3642.7	818.8	2823.9	21.1	44.0	9.5	25.4
1980	4023.6	887.0	3136.6	27.0	40.3	9.6	23.1
1981	4284.7	1103.1	3181.6	26.9	40.7	10.4	22.1
1982	4904.9	1281.1	3623.8	33.8	38.4	9.3	18.5
1983	5889.7	1523.2	4366.5	38.6	36.4	8.6	16.4
1984	6034.0	1558.0	4476.0	38.1	38.1	8.0	15.8

Source: Kentucky Finance and Administration Cabinet, *Kentucky Local Debt Report*, various years.

Note: Debt service on bonds issued by the Kentucky School Building Authority, a state agency, is paid partially by the Authority and partially by local governments according to a participation formula established by the Authority. Total local debt reported above does not include the local government's share of debt related to these KSBA bonds.

and 1984, total local debt increased substantially; in 1984 it was 3.58 times the 1971 amount. For industrial revenue bonds, the 1984 amount was 2.43 times the 1971 amount, and for other bonds the 1984 amount was 4.29 times the 1971 amount. Thus, industrial revenue bonds became relatively less important during the 14-year period. Within the total of other bonds, substantial changes occurred over the period in importance of the local government types. County government debt increased from 5.5 percent of total local government other debt in 1971 to 38.1 percent in 1984. City government other debt declined moderately in relative importance over the 14-year period, from 43.2 percent in 1971 to 38.1 percent in 1984. A moderate decline in relative importance also occurred for special district other debt, from 11.2 percent in 1971 to 8.0 percent in 1984. School district other debt decreased substantially in relative importance, from 40.2 percent in 1971 to 15.8 percent in 1984. Essentially, the increased relative importance of county government other debt offset the decreased relative importance of school district other debt.

Detail of Kentucky *state* government debt as reported by the Kentucky Finance and Administration Cabinet is presented in Tables 15-E and 15-F for the 12-year period 1973 to 1984. Total debt outstanding is shown in millions of dollars and also as percentage distributions among eight groups as to types of issuing agencies and/or governmental purposes. The growth in debt was less for state government than for local governments, over comparable periods. For example, total state government debt in 1984 was 1.92 times the 1973 amount whereas for local governments (Table 15-D) the 1984 amounts compared with the 1973 amounts are as follows: 2.95 times for total debt, 2.48 times for industrial revenue debt, and 3.16 times for other debt.

Generally over the period 1973 to 1984, relative importance declined for several groups of state debt: Group 1—Kentucky State Property and Building Commission; Group 2—Turnpike Authority of Kentucky; and Group 7—State Universities. Increased relative importance is shown for Group 4—Kentucky Housing Corporation, Group 6—Kentucky Higher Education Student Loan Corporation, and Group 8—Kentucky Developmental Finance Authority. Two other groups generally increased in relative importance, but only moderately: Group 3—Kentucky School Building Authority and Group 5—Kentucky Pollution Abatement Authority.

TABLE 15-E

Kentucky State Government Debt Outstanding, Total and by Issuing Agencies
Fiscal Years—1973-1984

		Shares of Total Debt Outstanding by Issuing Agency							
		Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Fiscal Year	Total Outstanding Debt	Kentucky State Property and Buildings Commission	Turnpike Authority of Kentucky[a]	Kentucky School Building Authority[b]	Kentucky Housing Corporation	Kentucky Pollution Abatement Authority[c]	Kentucky Higher Education Student Loan Corporation	State Universities	Kentucky Development Finance Authority
	(Million $)				(Percent)				
1973	$1,611.0	30.2%	47.8%					22.0%	
1974	1,678.5	28.0	44.6		3.1%	1.4%		22.9	
1975	1,671.8	28.9[d]	44.0		3.1[f]	1.4		22.6	
1976	1,635.4	28.5[d]	44.3		3.1[f]	1.4		22.7	
1977	1,998.3	24.5[e]	45.2		10.6	1.1		18.6	
1978	2,092.8	22.4[e]	43.9		15.3	1.1		17.4	
1979	2,546.1	17.6	45.1		19.6	1.1	1.2%	15.4	
1980	2,818.2	15.5	45.0	1.0%	22.6	1.4	1.1	13.5	
1981	3,012.4	14.1	41.5	1.7	22.2	1.5	4.6	13.6	0.8%
1982	2,647.1	18.0	28.7	2.3	23.8	1.6	5.3	15.8	4.5
1983	2,999.2	18.4	24.1	3.0	21.7	1.7	10.0	14.6	6.4
1984	3,366.9	17.4	30.0	2.6	19.5	1.5	8.8	13.1	7.1

Source: Kentucky Finance and Administration Cabinet, *Kentucky Annual Financial Report*, various years.

Notes

[a] Includes Kentucky Department of Highways debt.

[b] Includes portion of debt service provided by local governments; debt service on School Building Revenue Bonds is paid by the Authority and by local governments according to a participation formula established by the Authority.

[c] With the exception of Industrial Revenue Bonds, this debt is an obligation of local governments.

[d] Excludes $22.2 million in Bond Anticipation Notes for Project 23, the Kentucky State Horse Park, authorized but not issued in 1975 or 1976.

[e] Excludes $10.5 million in Bond Anticipation for Project 23, the Kentucky State Horse Park, authorized but not issued in 1977 or 1978.

[f] Excludes $50 million in second and third series Bond Anticipation Notes for the Corporation.

TABLE 15-F
Kentucky State Government Debt, Types and Issuing Agencies

General Obligation Bonds—issued through the State Property and Buildings Commission, after general referendum approval as required by the Kentucky Constitution. They pledge the full faith, credit, and taxing power of Kentucky and denote application of specific or general tax revenues to provide payment of principal and interest requirements on the debt. No new general obligation bonds have been issued since 1965 and there were no general obligation bonds authorized but unissued on June 30, 1984.

Project Revenue Bonds—project revenue debt pledges only the revenues produced by the project so funded as security for repayment, and does not *directly* obligate the state of Kentucky. Project revenues may come from General Assembly appropriations or from revenues generated from the project financed by the debt. Therefore, project revenue debt may be further classified as follows:

> *Appropriation supported*—agencies and authorities issuing debt which is supported through a General Assembly appropriation are considered to issue state supported revenue bonds. These issuing agencies, which cannot incur debt for any project without prior approval of the General Assembly, include:
>
> > *Kentucky State Property and Buildings Commission*—an independent agency of the state that, upon application of any state agency, will issue bonds in its own name to pay the costs of acquiring land and the construction and equipping of buildings for the use and occupancy of applying agencies. As described above, the Commission also issues all general obligation bonds for highways, parks, and veterans bonus.
> >
> > *Turnpike Authority of Kentucky*—created in 1960 as a governmental agency of the state to acquire, construct, finance, maintain, repair and operate turnpike projects and resource recovery road projects under written agreements with the Transportation Cabinet. Such roads are leased to the Transportation Cabinet, with rental payments providing debt service on debt issued for such purposes.
> >
> > *Kentucky School Building Authority*—an agency of the state, established as a public corporation to reduce the backlog of schoolhouse construction by: making direct cash grants to local school districts for construction and maintenance of schools when the district is without such funds; issuing bonds in their name on behalf of school districts to finance school construction; and entering into lease agreements with the Department of Education to build state-owned department-operated facilities. Although this agency is classified here as issuing appropriation supported debt, not all debt service is paid from state appropriation. Debt service is supported both by funds appropriated by the state *and* by funds provided by local governments according to a participation formula established by the Authority.
> >
> > *State Universities*—all state universities may issue debt to construct educational buildings and housing and dining facilities. Each institution provides by resolution whether the bonds shall be payable solely from the revenues of specific buildings or payable from the revenues of other buildings.

TABLE 15-F (Continued)
Kentucky State Government Debt, Types and Issuing Agencies

Non-Appropriation Supported—agencies and authorities issuing debt to finance facilities or projects that are not used directly for state purposes and which are supported by revenues assessed to users are considered to issue non-state supported revenue bonds. At the end of fiscal year 1984, this revenue debt was issued by the following agencies:

Kentucky Housing Corporation—established in 1972 to increase the supply of housing for low income persons by making or participating in insured construction loans, and making or participating in insured mortgage loans when financing is not available from private lenders under reasonably equal terms.

Kentucky Pollution Abatement Authority—established in 1972 to issue debt and make repayable grants to local government units for assistance in construction of wastewater treatment facilities for the abatement of water pollution in the state.

Kentucky Higher Education Student Loan Corporation—makes and guarantees student loans and re-insures such student loans with the U.S. federal government. The Corporation was created to act as a financing authority and to assure a secondary market for insured student loans.

Kentucky Development Finance Authority—established in 1958 to promote the industrial development of Kentucky. KDFA is the only agency at the state level with the authority to issue industrial revenue bonds at the request of local governments. These revenue bonds represent obligations payable solely from payments made by the borrowing entities and are secured by the property financed. Upon repayment of a bond, ownership of the acquired property transfers to the entity served by the bond issuance. These bonds do not constitute a general debt, liability, or moral obligation of the state.

Source: Kentucky Finance and Administration Cabinet, *Kentucky Annual Financial Report*, 1984.

Table 15-G summarizes the Kentucky source data on outstanding debt of state and local governments in Kentucky for the 12-year period 1973 to 1984. Amounts are for total debt and per capita debt. Totals are shown for state debt, local debt, and state plus local debt. Total local debt is also divided between industrial revenue bonds and other bonds. Because Kentucky's population increased over the period, the per capita amounts are most meaningful for comparison purposes. If all of the 1984 per capita amounts are divided by the corresponding 1973 amounts, the following multiples show how many times the 1984 amounts are of the 1973 amounts: 2.33 times for total state plus local debt; 1.89 times for total state debt; 2.67 times for total local debt; 2.25 times for local industrial revenue debt; and 2.86 times for local other debt. As previously shown, local government debt has increased over the 12-year period to a greater degree than has state government debt. Within local debt, industrial revenue debt has grown less than has other debt.

TABLE 15-G

Outstanding Long Term Debt of Kentucky State and Local Governments, Total and Per Capita, by Types of Debt—Fiscal Years 1973-1984

	Outstanding Long Term Debt					Per Capita Outstanding Long Term Debt				
			Local					Local		
Fiscal Year	State and Local Total	State Total	Local Total	Industrial Revenue Bonds	Other	State and Local Total	State Total	Local Total	Industrial Revenue Bonds	Other
	(Millions of Dollars)					(Dollars Per Capita)				
1973	$3,655.1	$1,611.0	$2,044.1	$ 628.3	$1,415.9	$1,084.0	$477.8	$ 606.2	$186.3	$ 419.9
1974	3,931.5	1,678.5	2,253.0	654.1	1,599.0	1,150.6	491.2	659.4	191.4	468.0
1975	3,998.1	1,671.8	2,326.3	670.9	1,655.4	1,152.5	481.9	670.6	193.4	477.2
1976	4,115.6	1,635.4	2,480.2	720.0	1,760.2	1,165.9	463.3	702.6	204.0	498.6
1977	4,613.5	1,998.3	2,615.2	719.6	1,931.6	1,290.5	559.0	731.5	201.3	540.3
1978	5,257.5	2,092.8	3,164.7	726.8	2,437.9	1,456.0	579.6	876.4	201.3	675.1
1979	6,188.8	2,546.1	3,642.7	818.8	2,823.9	1,698.4	698.7	999.6	224.7	774.9
1980	6,841.8	2,818.2	4,023.6	887.0	3,136.6	1,868.3	769.6	1,098.7	242.2	856.5
1981	7,297.1	3,012.4	4,284.7	1,103.1	3,181.6	1,985.6	819.7	1,165.9	300.2	865.7
1982	7,552.0	2,647.1	4,904.9	1,281.1	3,623.8	2,045.5	717.0	1,328.5	347.0	981.5
1983	8,888.9	2,999.8	5,889.7	1,523.2	4,366.5	2,394.0	808.8	1,586.2	410.2	1,176.0
1984	9,400.9	3,366.9	6,034.0	1,558.0	4,476.0	2,525.1	904.4	1,620.7	418.5	1,202.3

Source: Kentucky Finance and Administration Cabinet, *Kentucky Local Debt Report* and *Kentucky Annual Financial Report*, various years. Per capita totals calculated using Bureau of the Census population data.

Several of the important relationships regarding debt statistics, as revealed in the tables, are selected for further illustration in the following charts. Figure 15-A compares Kentucky, Tennessee, and Georgia according to total general debt outstanding, with per capita amounts expressed as percentages of the fifty-state average, emphasizing differences among states in debt levels. Figure 15-B compares Kentucky and the fifty-state average according to interest expenditures as percentages of own-source general revenue (taxes, and charges and miscellaneous), illustrating how debt levels are reflected in interest expenditures. Figure 15-C illustrates Kentucky local government debt according to types of bonds and types of local governments, comparing 1974 and 1984, showing the changing composition of local government debt.

Figure 15–A

Outstanding Long Term General Debt Per Capita
of State & Local Governments as % of 50 State Average
Kentucky, Tennessee, and Georgia –– Fiscal Years 1964–1984

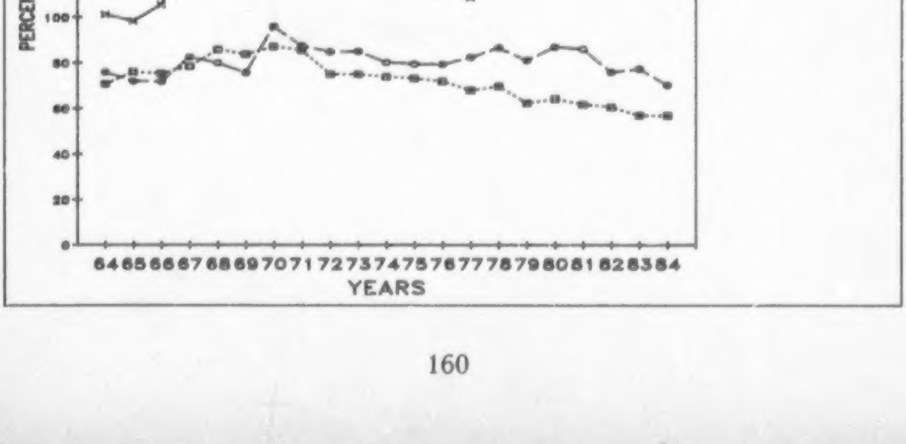


Figure 15-B

Interest Expenditure on General Debt as % of Own-Source General Revenue by State and Local Governments

Kentucky and 50 State Average (calculated Per Capita) FY 1960-1984

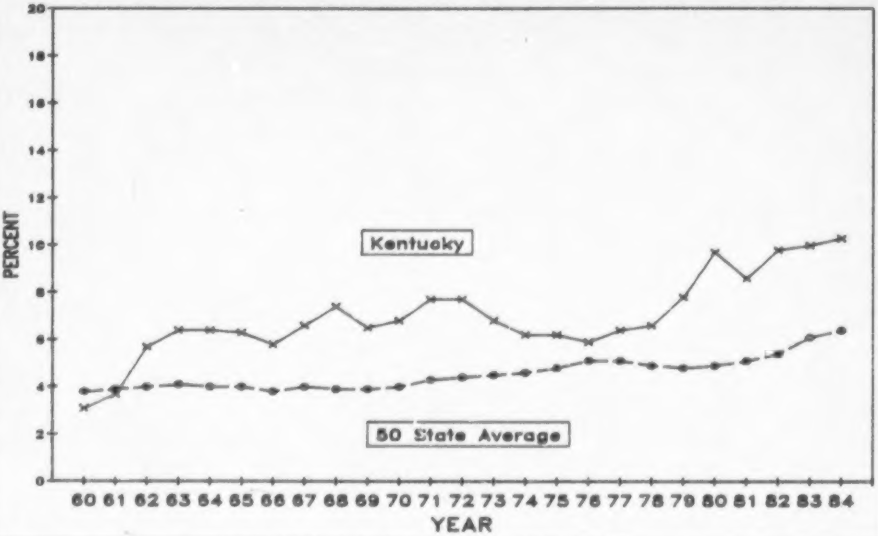
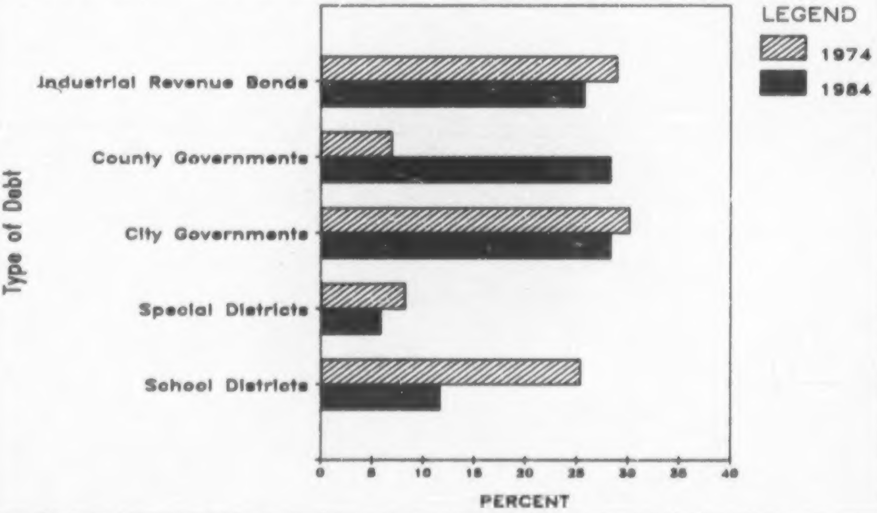


Figure 15-C

Kentucky Local Government Debt Outstanding by Type

as Percent of Total Local Debt -- Fiscal Years 1974 & 1984



Part II: Glossary

This glossary provides definitions of selected terms used by the U.S. Department of Commerce, Bureau of the Census, in its annual publication Govermental Finances. Governmental Finances *is the primary source for most of the analysis included in Part II of the* Commonwealth of Kentucky Annual Economic Report—1985. *The definitions are in alphabetical order; in a few cases, such as with Sales and Gross Receipts Taxes, subcategories of a definition follow the definition rather than appearing in strictly alphabetical order.*

CAPITAL OUTLAY. Direct expenditure for contract or force account construction of buildings, roads, and other improvements, and for purchase of equipment, land, and existing structures. Includes amounts of additions, replacements, and major alterations to fixed works and structures. However, expenditure for repairs to such works and structures is classified as current operation expenditure.

CASH ASSISTANCE. Direct cash payments to beneficiaries of public welfare programs. See *Public Welfare.*

CATEGORICAL ASSISTANCE PROGRAMS. Old Age Assistance, Aid to Families With Dependent Children, Aid to Blind, Aid to Disabled, and Medical Assistance. See *Public Welfare.*

CHARGES AND MISCELLANEOUS GENERAL REVENUE. General revenue other than taxes and intergovernmental revenue.

CORRECTION. Confinement and correction of adults and minors convicted of offenses against the law, and pardon, probation, and parole activities.

CORRECTIONAL INSTITUTIONS. Prisons, reformatories, houses of correction, and other institutions for the confinement and correction of convicted persons and juveniles. Includes only expenditures for institutions operated by the government concerned; excludes cost of maintaining prisoners in institutions of other governments.

DEBT. All long-term credit obligations backed by the government's full faith and credit or nonguaranteed, and all interest-bearing short-term credit obligations. Includes judgments, mortgages, and revenue bonds, as well as general obligation bonds, notes, and interest-bearing warrants. Excludes noninterest-bearing short-term obligations, interfund obligations, amounts owed in a trust or agency capacity, advances and contingent loans from other governments, and rights of individuals to benefits from social insurance funds.

DEBT OUTSTANDING. All debt obligations remaining upaid on the date specified.

DIRECT EXPENDITURE. Payments to employees, suppliers, contractors, beneficiaries, and other final recipients of government payments—i.e., all expenditure other than *Intergovernmental Expenditure.*

EDUCATION. Schools, colleges, and other educational institutions (e.g., for blind, deaf, and other handicapped individuals), and educational programs for adults, veterans, and other special classes. *Institutions of Higher Education* includes activities of colleges operated by State and local governments, except that agricultural extension services and experiment stations are classified under *Natural Resources* and hospitals serving the public are classified under *Hospitals.* Revenue and expenditure for dormitories, cafeterias, athletic events, bookstores, and other *Auxiliary Enterprises* financed mainly through charges for services are reported on a gross basis. *Local Schools* comprises payments for operation of elementary and secondary schools, construction of school buildings, purchase and operation of school buses, and other local school services. Direct State expenditure for *Other Education* includes State educational administration and services, tuition grants, fellowships, aid to private schools, and special programs.

EXPENDITURE. All amounts of money paid out by a government—net of recoveries and other correcting transactions—other than for retirement of debt, investment in securities, extension of credit, or as agency transactions. Note that expenditure includes only external transactions of a government and excludes non-cash transactions such as the provision of perquisites or other payments in kind.

FINANCIAL ADMINISTRATION. Activities involving finance and taxation. Includes central agencies for accounting, auditing, and budgeting; the supervision of local government finance; tax administration; collection, custody, and disbursement of funds; administration of employee-retirement systems; debt and investment administration; and the like.

FISCAL YEAR. The 12-month period at the end of which the government or any governmental agency determines its financial condition and the results of its operations and closes its books.

GENERAL CONTROL. The legislative and judicial branches of the government, the office of the chief executive, and auxiliary agencies and staff services responsible for law, recording, general public reporting, personnel administration, and the like. Internal control activities of individual departments or agencies are classed under the particular function. See also *Financial Administration*.

GENERAL EXPENDITURE. All government expenditures other than the specifically enumerated kinds of expenditure classified as *Liquor Stores Expenditure*, *Insurance Trust Expenditure*, and *Utility Expenditure*.

GENERAL REVENUE. All revenue except *Liquor Stores Revenue*, *Insurance Trust Revenue*, and *Utility Revenue*. The basis for distinction is not the fund or administrative unit receiving particular amounts, but rather the nature of the revenue sources concerned.

GENERAL REVENUE SHARING. Funds distributed to local general purpose governments by the Federal Government under the State and Local Fiscal Assistance Act of 1972.

HEALTH. Health services, other than hospital care, and financial support of health programs of other governments. Includes public health research, nursing, immunization, maternal and child health, and other categorical, environmental, and general health activities. Does not include vendor payments for health services adminstered under public welfare programs.

HIGHWAYS. Streets, highways, and structures necessary for their use, snow and ice removal, toll highway and bridge facilities, and ferries. Includes support of or reimbursement for street and highway activities of local governments, including aid to local governments for debt service on local highway debt.

HOSPITALS. Establishment and operation of hospital facilities, provision of hospital care, and support of public or private hospitals. However, see *Public Welfare* concerning vendor payments under welfare programs.

HOUSING AND URBAN RENEWAL. Housing and redevelopment projects and any promotion or support of private housing and redevelopment activities.

INDIVIDUAL INCOME TAXES. Taxes on individuals measured by net income and taxes distinctively imposed on special types of income (e.g., interest, dividends, income from intangibles, etc.).

INSURANCE TRUST SYSTEM. A government-administered program for employee retirement and social insurance protection relating to unemployment compensation, workmen's compensation, Old Age, Survivors', Disability, and Health Insurance, and the like. *Insurance Trust Revenue* comprises amounts from contributions required of employers and employees for financing these social insurance programs, and earnings on assets of such systems. *Insurance Trust Expenditure* corresponds with the character and object category, *Insurance Benefits and Repayments*, and comprises only cash payments to beneficiaries (including withdrawals of contributions). These categories exclude costs of administering insurance trust systems, which are classed as general expenditure. Insurance trust revenue and expenditure do not include any contributions of a government to a system it administers. Any amounts paid by a government as employer contributions to an insurance trust system administered by another government are classed as general expenditure for current operation, and as insurance trust revenue of the particular system and receiving government.

INTEREST EXPENDITURE. Amounts paid for use of borrowed money.

INTERGOVERNMENTAL TRANSACTIONS. *Intergovernmental Revenue* and *Intergovernmental Expenditure* comprise, respectively, payments from one government to another as grants-in-aid, shared revenues, payments in lieu of taxes, or reimbursements for governmental services. Excludes amounts for the purchase of commodities, property, or utility services, any tax levied as such on facilities of the payer, and employer contributions by the government for social insurance (e.g., employee-retirement and OASDHI insurance). *Intergovernmental Revenue from State Government* includes any amounts originating with the federal government but channeled through the State for distribution to local governments.

LICENSE TAXES. Taxes exacted (either for revenue raising or for regulation) as a condition to the exercise of a business or non-business privilege, at a flat rate or measured by such bases as capital stock, capital surplus, number of business units, or capacity. Excludes taxes measured directly by transactions, gross or net income, or value of property except those to which only nominal rates apply. "Licenses" based on these latter measures, other than those at nominal rates, are classified according to the measure concerned. Includes "fees" related to licensing activities—automobile inspection, gasoline and oil inspection, professional examinations and licenses, etc.—as well as license taxes producing substantial revenues.

LIQUOR STORES EXPENDITURE. Expenditure for purchase of liquor for resale and provision and operation of liquor stores. Excludes expenditure for law enforcement and licensing activities carried out in conjunction with liquor store operations.

LIQUOR STORES REVENUE. Amounts received from sale of liquor by government operated liquor stores and other revenue from liquor store operations. Excludes any taxes collected by government operated liquor monopoly systems.

LONG-TERM DEBT. Debt payable more than 1 year after date of issue.

NATURAL RESOURCES. Government activities to conserve, promote and develop agriculture, fish and game, forestry, and other soil and water resources, including geological research, flood control, irrigation, drainage, and other conservation activities. Hydroelectric power activities are classed under electric power utilities.

PARKS AND RECREATION. Cultural-scientific activities, such as museums and art galleries; parks and beaches; and special facilities for recreation, such as auditoriums, stadiums, recreation piers and boat harbors.

POLICE PROTECTION. Preservation of law and order and traffic safety. Includes crime prevention activities, detention and custody of persons awaiting trial, highway patrols, and the like.

PROPERTY TAXES. Taxes conditioned on ownership of property and measured by its value. Includes general property taxes relating to property as a whole, real and personal, tangible or intangible, whether taxed at a single rate or at classified rates; and taxes on selected types of property, such as motor vehicles or certain or all intangibles.

PUBLIC WELFARE. Support of and assistance to needy persons contingent upon their need. Excludes pensions to former employees and other benefits not contingent on need. Expenditures under this heading include: *Cash Assistance Payments* directly to needy persons under categorical and other welfare programs; vendor payments made directly to private purveyors for medical care, burials, and other services provided under welfare programs; welfare institutions; and any intergovernmental or other direct expenditure for welfare purposes. Any services provided directly by the government through its *Hospitals* and *Health* agencies are classed under those headings.

REVENUE. All amounts of money received by a government from external sources—net of refunds and other correcting transactions—other than from issue of debt, liquidation of investments, and as agency and private trust transactions. Note that revenue excludes noncash transactions such as receipt of services, commodities, or other "receipts in kind."

SALARIES AND WAGES. Amounts paid for compensation of government employees. Consists of gross compensation before deductions for withheld taxes, retirement contributions, or other purposes.

SALES AND GROSS RECEIPTS TAXES. Taxes, including "licenses" at more than nominal rates, based on volume or value of transfers of goods or services, upon gross receipts therefrom, or upon gross income, and related taxes based upon use, storage, production (other than severance of natural resources), importation, or consumption of goods. Dealer discounts or "commissions" allowed to merchants for collection of taxes from consumers are excluded.

GENERAL SALES OR GROSS RECEIPTS TAXES. Sales or gross receipts taxes which are applicable with only specified exceptions to all types of goods, all types of goods and services, or all gross income, whether at a single rate or at classified rates. Taxes imposed distinctively upon sales of or gross receipts from selected commodities, services, or businesses are reported separately under selective sales and gross receipts taxes below.

SELECTIVE SALES AND GROSS RECEIPTS TAXES. Sales and gross receipts taxes imposed on sales of particular commodities or services or gross receipts of particular businesses, separately and apart from the application of general sales and gross receipts taxes. Selective sales and gross receipts taxes are imposed on alcoholic beverages, amusements, insurance, motor fuels, parimutuels, public utilities and tobacco products.

SEVERANCE TAXES. Taxes imposed distinctively on removal of natural products—e.g., oil, gas, other minerals, timber, fish, etc.—from land or water and measured by value of quantity of products removed or sold.

TAXES. Compulsory contributions exacted by a government for public purposes, except employee and employer assessments for retirement and social insurance purposes, which are classified as insurance trust revenue. All tax revenue is classified as general revenue and comprises amounts received (including interest and penalities but excluding protested amounts and refunds) from all taxes imposed by a government.

UTILITY. A water supply, electric light and power, gas supply, or transit system owned and operated by a government. *Utility Revenue* comprises receipts from the sale of utility services or commodities to the public or to other governments. *Utility Expenditure* consists of capital outlay for utility facilities, interest paid on utility debt, and current operation expenditure of the utility, net of identifiable costs for providing services to the parent government (which are treated as general expenditure for the function served). *Utility Debt* comprises all debt incurred to finance a utility system, including any such full-faith and credit obligations of the parent government.

Source: U.S. Department of Commerce, Bureau of the Census, *Governmental Finances in 1983-84* (Washington, D.C.: U.S. Government Printing Office) 1985.